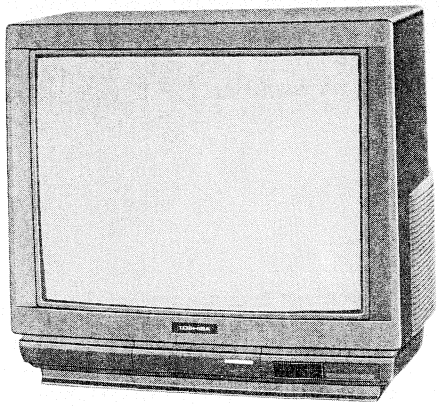
SERVICE DATA
FILE NO. 050-130
3-SYSTEM

TOSHIBA

COLOUR TELEVISION

155R8FW



SPECIFICATIONS

Input Power Rating:	66 watts, AC 220 volts, 50 Hz
Aerial Input Impedance:	75 ohm unbalanced type for VHF and UHF
Receiving Channels:	CCIR L-SECAM Standard: VHF ..... channels B to C, 1 to 6, B to Q (70 ~ 86) UHF ..... channels 21 to 69 CCIR B/G-PAL Standard / CCIR B/G-SECAM Standard: VHF ..... channels 2 to 12, S3 to S20 UHF ..... channels 21 to 69
Intermediate Frequencies:	Picture I-F carrier frequency L-System ..... 32.7 MHz B/G System (V_H, U) ..... 32.7 MHz B/G System (V_L) ..... 37.4 MHz Sound I-F carrier frequency L-System ..... 39.2 MHz B/G System (V_H, U) ..... 38.2 MHz B/G System (V_L) ..... 31.9 MHz
Picture Tube:	15 in. A36EAM01X01, 356 mm (measured on diagonal of viewable picture area), 90°deflection
Sound Output:	1.0 watts (at 10% harmonic distortion), Max. 1.5 watts
Speaker:	100 mm Round
Aux. Terminal:	21 pin socket
Cabinet:	Table type
Dimension:	Height ..... 348 mm Width ..... 384 mm Depth ..... 372 mm
Weight (Net):	11.5 kg

Specifications are subject to change without notice.

Printed in Japan Jul. 1988 (So)

SAFETY INSTRUCTIONS

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION" , "SAFETY PRECAUTION" AND THE "PRODUCT SAFETY NOTICE" INSTRUCTIONS BELOW.

X-RAY RADIATION PRECAUTION

1. The E.H.T. must be checked every time the receiver is serviced to ensure that the C.R.T. does not emit X-ray radiation as result of excessive E.H.T. voltage. The nominal E.H.T. for this receiver is 25.0 kV at zero beam current (minimum brightness) operating at 220V a.c. The maximum E.H.T. voltage permissible in any operating circumstances must not exceed 26.5 kV. When checking the E.H.T., use the 'High Voltage Check' procedure on page 5 in this manual using an accurate E.H.T. voltmeter.
2. The only source of X-RAY radiation in this receiver is the C.R.T. To prevent X-ray radiation, the replacement C.R.T. must be identical to the original fitted as specified in the Parts List.
3. Some components used in this receiver have safety related characteristics preventing the C.R.T. from emitting X-ray radiation.
   For continued safety, replacement component should only be made after referring the Product Safety Notice below.

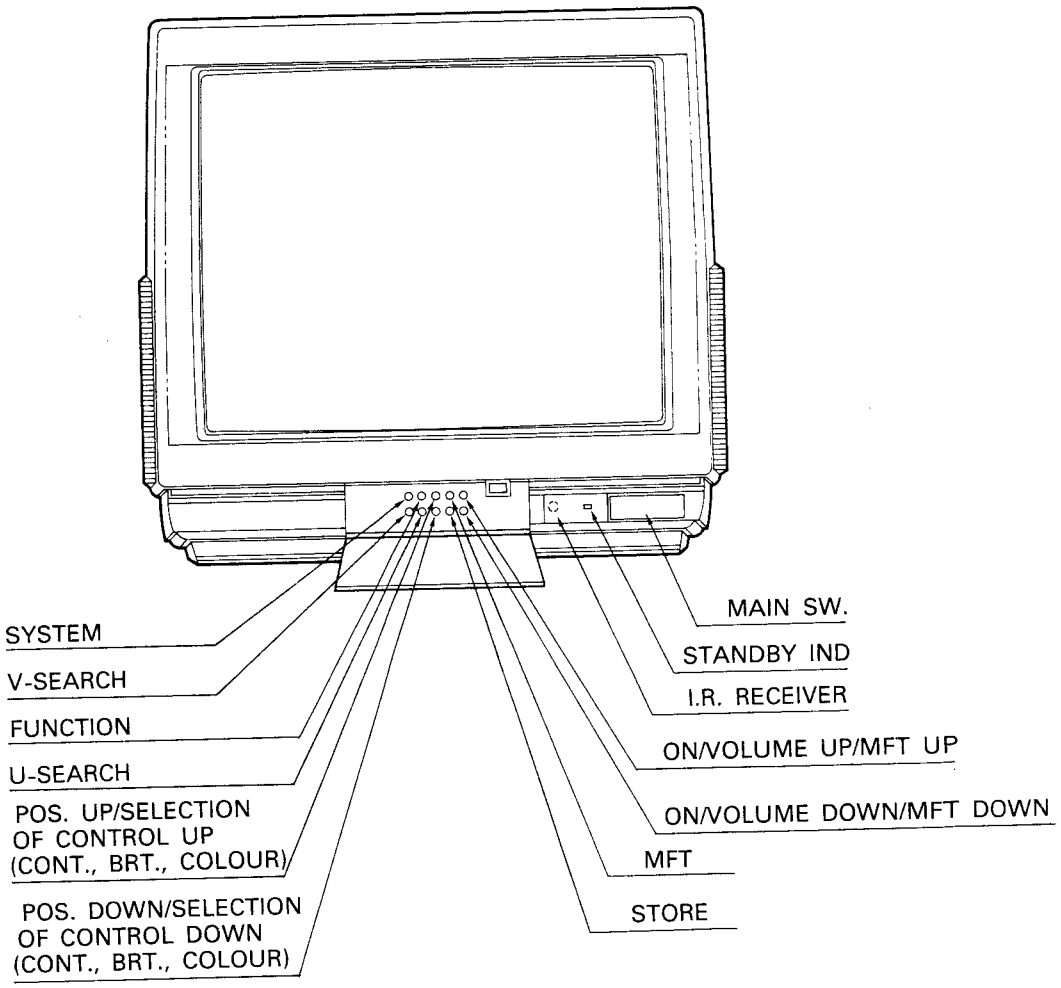
SAFETY PRECAUTION

1. This receiver has a nominal working E.H.T. voltage of 23 kV. Extreme caution should be exercised when working on the receiver with the back removed.
   Do not attempt to service this receiver if you are not conversant with the precautions and procedures for working on high voltage equipment.
   When handling or working on the C.R.T., always discharge the anode to the receiver chassis before removing the anode cap.
   The C.R.T., if broken, will violently expel glass fragments. Use shatter proof goggles and take extreme care while handling.
   Do not hold the C.R.T. by the neck as this is a very dangerous practice.
2. A small part of the chassis used in this receiver is, when operating, at approximately half mains potential at all times. It is therefore essential in the interest of safety that when serving or connecting any test equipment the receiver should be supplied via a suitable isolating transformer of adequate rating.
3. Replace blown fuses within the receiver with the fuse specified in the parts list.
4. When replacing wires or components to terminals or tags, wind the leads around the terminal before soldering. When replacing safety components identified by the international hazard symbols on the circuit diagram and parts list, it must be a Toshiba approved type and must be mounted as the original.
5. Keep wires away from high temperature components.

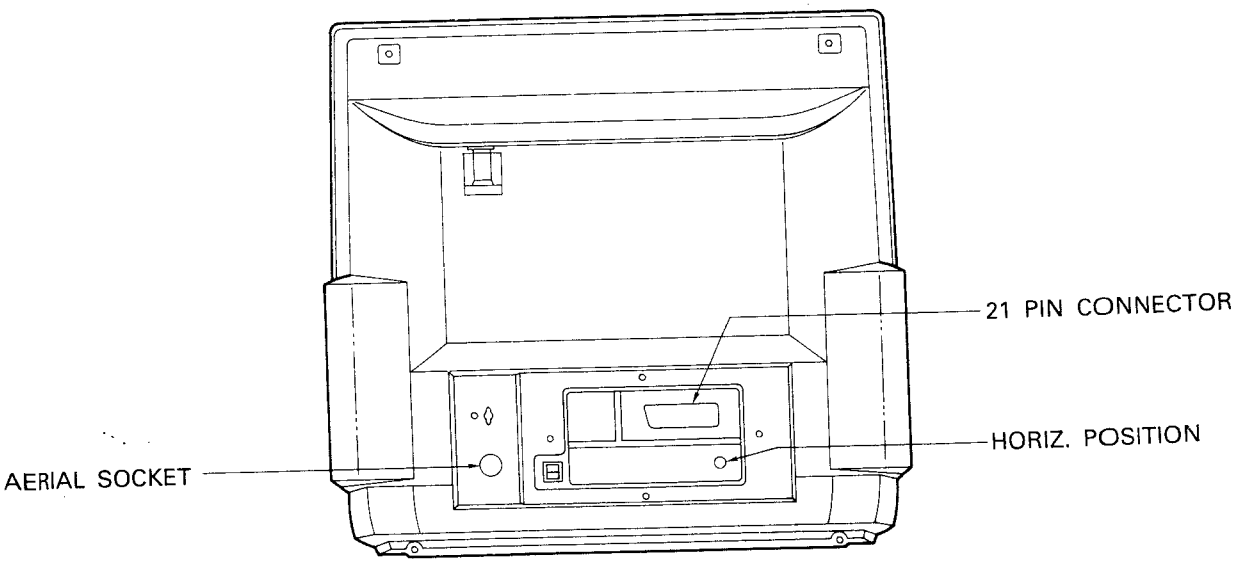
PRODUCT SAFETY NOTICE

Many electrical and mechanical components in this chassis have special safety-related characteristics. These characteristics are often passed unnoticed by a visual inspection and the X-ray radiation protection afforded by them cannot necessarily be obtained by using replacements rated at higher voltages or wattage, etc. Components which have these special safety characteristics in this manual and its supplements are identified by the international hazard symbols on the schematic diagram and parts list. Before replacing any of these components read the parts list in this manual carefully. Substitute replacement components which do not have the same safety characteristics as specified in the parts list may create X-ray radiation.

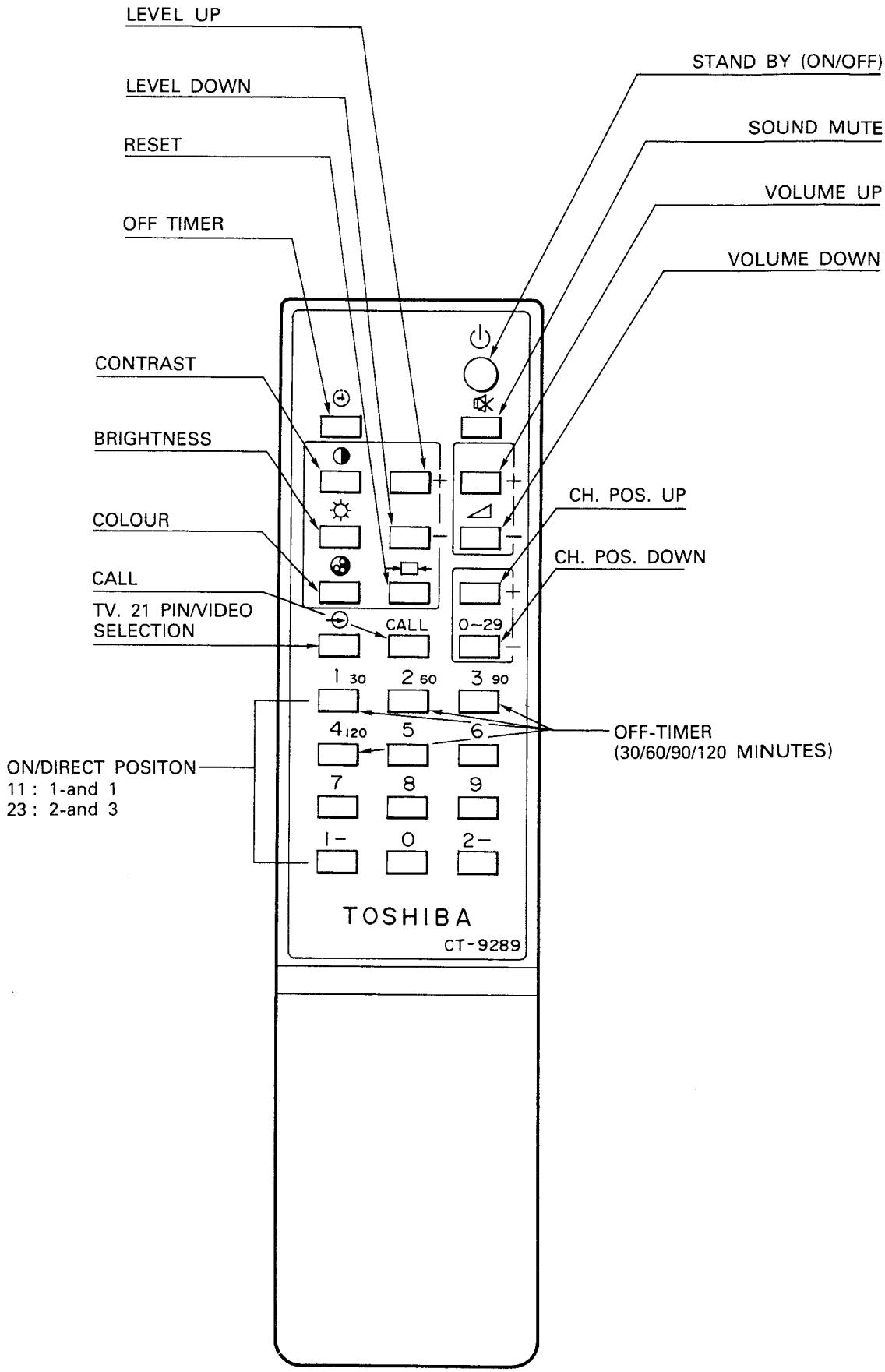
FRONT CONTROLS VIEW



REAR VIEW



REMOTE HAND HELD UNIT



WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION" , "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 2 OF THIS MANUAL.

INSTALLATION AND SERVICE ADJUSTMENTS

GENERAL INFORMATIONS

All adjustments are thoroughly checked and corrected when the receiver leaves the factory. Therefore the receiver should operate normally and produce proper colour and B/W pictures upon installation. However, several minor adjustments may be required depending on the particular location in which the receiver is operated.

This receiver is shipped completely in cardboard carton. Carefully draw out the receiver from the carton and remove all packing materials.

Plug the power cord into a convenient 220 volts 50 Hz AC two pin power outlet. Turn the receiver ON.

Check and adjust all the customer controls such as BRIGHTNESS, CONTRAST and COLOUR Controls to obtain natural colour or B/W picture.

AUTOMATIC DEGAUSSING

A degaussing coil is mounted around the picture tube so that external degaussing after moving the receiver is normally unnecessary, providing the receiver is properly degaussed upon installation. The degaussing coil operates for about 1 second after the power to the receiver is switched ON. If the set is moved or faced in a different direction, the power switch must be switched off at least 10 minutes in order that the automatic degaussing circuit operates properly.

Should the chassis or parts of the cabinet become magnetized to cause poor colour purity, use an external degaussing coil. Slowly move the degaussing coil around the faceplate of the picture tube, the sides and front of the receiver and slowly withdraw the coil to a distance of about 2 m before disconnecting it from AC source. If colour shading still persists, perform the COLOUR PURITY ADJUSTMENT and CONVERGENCE ADJUSTMENTS procedures, as mentioned later.

HIGH VOLTAGE CHECK

CAUTION: There is no HIGH VOLTAGE ADJUSTMENT on this chassis.

1. Connect an accurate high voltage meter to the second anode of the picture tube.
2. Turn on the receiver. Set the BRIGHTNESS and CONTRAST Controls to minimum (zero beam current).
3. High voltage will be measured below 26.5 kV.
4. Rotate the BRIGHTNESS Control to both extremes to be sure the high voltage does not exceed the limit of 26.5 kV under any conditions.

HEIGHT ADJUSTMENT

HEIGHT Control (R351) on MAIN Board changes the size of the picture or pattern, having an equal effect on the top and bottom. Make final adjustment to overscan the mask 2 cm at top and bottom.

HORIZONTAL CENTER ADJUSTMENT

1. Receive the WG PHILIPS pattern.
2. Set the contrast and colour to minimum, and the bringhtness to maximum.
3. Adjust H. CENTER USER Control (R452) to the click (center) position.
4. Adjust H. CENTER SUB Control (R451) so the pattern center can be located at the screen center.

FOCUS ADJUSTMENT

Adjust FOCUS Control on FLYBACK TRANS.(T461) for well defined scanning lines in the centre area on the screen.

DELAYED R-F AGC ADJUSTMENT

1. Tune the set in the strongest station in your area.
2. Turn AGC DELAY Control (R153) on IF Board to fully counterclockwise position.
3. Adjust AGC DELAY Control clockwise until noise (snow) disappears on the screen.

AFC (Automatic Frequency Control) FIELD ALIGNMENT

1. Tune the set to an active channel and adjust fine tuning for best picture with MFT UP, DOWN buttons.
2. To activate AFC, temporarily tune in the next active channel with SEARCH button and return to the previous channel.
3. Adjust L152 and CN52 for the best tuned picture.
4. Detune to higher or lower side with MFT button. Then temporarily change to the next active channel with SEARCH button, and return to the previous channel to check for the best tuned picture.

BELL COIL (LM01) ADJUSTMENT

1. Receive SECAM colour bar signal.
2. Connect the synchroscope to the terminal pin 2 of LM01.
3. Adjust LM01 for the flat level of amplitude in each colour bar waveform on the scope. (See figure 1.)

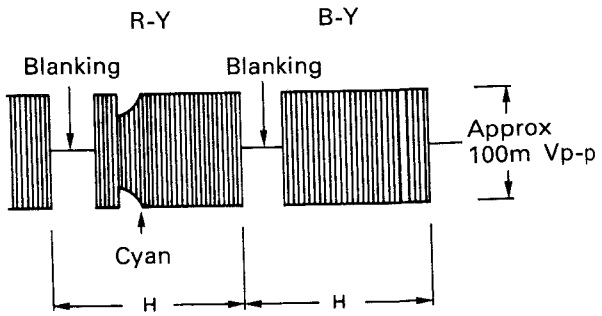


Figure 1.

IDENT COIL (LM04) ADJUSTMENT

1. Receive SECAM colour bar signal.
2. Connect the DC voltmeter (Digital Voltmeter) to the pin 23 of IC501.
3. Adjust LM04 for the maximum indication (approx. DC10V) on the meter.

B-Y, R-Y DEMOD COIL (LM02, LM03) ADJUSTMENT

1. Receive SECAM colour bar signal.
2. Set the COLOUR, BRIGHTNESS and CONTRAST Controls free.
3. Connect the synchroscope to the pin 60 of IC501.
4. Adjust LM02 so that the white level in picture part reaches to the vertical retrace line. (See figure 2.)
5. Then change the connection of synchroscope from the pin 60 to the pin 62 of IC501.
6. Adjust LM03 so that the white level in picture part reaches to the vertical retrace line. (See figure 3.)

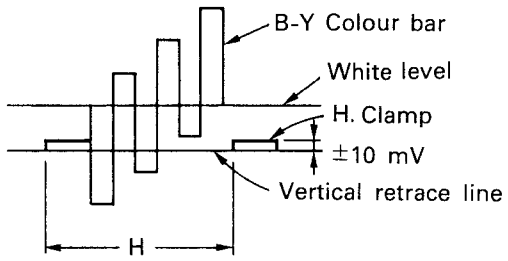


Figure 2.

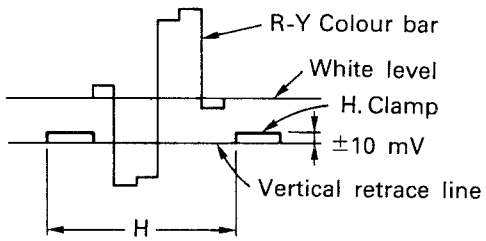


Figure 3.

PAL MATRIX ADJUSTMENT

1. Tune in the colour programme of the Philips pattern.
2. Set the COLOUR Control VR. to obtain the proper colour.
3. If the PAL MATRIX adjustment is incorrect, the Venetian Blind would appear in the colour bars area. This case needs the adjustment.
4. At the first, adjust DL PHASE ADJ. Coil (L551) to minimize the Venetian Blind.
5. Next adjust 1H-DL ADJ. VR (R551) to minimize the Blind.
6. If the Venetian Blind still remains, adjust 1H-DL PHASE ADJ. Coil (L551) to minimize the Blind again.
7. Repeat the item 5 and 6 procedures, adjust the R551 and L551 until the Blind does not appear.

CRT GREY SCALE ADJUSTMENT

1. Tune in an active channel.
2. Turn the SCREEN Control (on T461) fully counter clockwise.
3. By rotating the RED, GREEN and BLUE CUT OFF Controls (R557, R558, R559) fully counterclockwise.
4. Set the GREEN and BLUE DRIVE Controls (R252, R253) to the mid position.
5. Set the SERVICE SW. (S202) in the H. line position.
6. Short temporarily terminal of RASTER CHIP on the CRT DRIVE Board.
7. Set the CONTRAST, COLOUR Controls to minimum and BRIGHTNESS Control to centre position. position.
8. Rotate the SCREEN Control gradually clockwise until the first line appears slightly on the screen. Then turn fully counterclockwise the two CUT OFF Controls corresponding to the colours of the first and the second horizontal lines to eliminate the lines.
9. Rotate the SCREEN Control gradually clockwise until the first horizontal line of a colour (RED, GREEN or BLUE) appears slightly on the screen. Set the SCREEN Control to this position.
   At the base of the colour, rotate the remaining two CUT OFF Controls gradually clockwise until the horizontal lines of each colour appear slightly on the screen.
10. Open the terminal of RASTER CHIP on the CRT DRIVE Board.
11. Adjust the CUT OFF Controls to obtain the slightly lighted horizontal lines in the same levels of three colours (RED, GREEN and BLUE).
    The lines may look like white if the CUT OFF Controls are adjusted properly.
12. Return the SERVICE SW. (S202) in the recieving position.
13. Set the BRIGHTNESS Control to the maximum and COLOUR Control to the minimum.
14. Adjust the BLUE and GREEN DRIVE Controls (R252/R253) to obtain proper white-balanced picture in high light areas.
15. Set the BRIGHTNESS and CONTRAST Controls to obtain dark grey raster. Then check the white balance in low brightness. If the white balance is not proper, retouch the CUT OFF Controls and DRIVE Controls to obtain a good white balance in both low and high light areas.

SUB-BRIGHTNESS ADJUSTMENT

1. Tune in a colour programme.
2. Set the CONTRAST Control to the minimum and the BRIGHTNESS Control to the centre.
3. Set the COLOUR Control to the minimum.
4. Set the SUB BRIGHT. Control (R255) to the centre and leave the receiver for five minutes in this state.
5. Watching the picture well, adjust the SUB-BRIGHT. Control in the position where the picture does not show evidence of blooming in high bright area and not appear too dark in low bright portion.
6. Check the proper picture variation by rotating the CONTRAST and BRIGHTNESS Controls to both extremes.
7. If the picture does not appear dark with the CONTRAST and BRIGHTNESS Controls turned to the minimum, or not appear bright with the controls turned to the maximum, adjust the SUB-BRIGHT.
   Control again for the acceptable picture.

PICTURE I-F SWEEP ALIGNMENT

GENERAL ..... Refer to figure 4 for test equipment connection.
PRELIMINARY STEPS ..... 1. Disconnect the solder links SL-1 and SL-2 (◖◗ see figure 4) on the foil side of the Back Terminal Board.
2. Supply +12 volts to the Back Termianl Board.
3. Short the collector of QN03 to Ground to reduce the voltage at pin 30 of IC101 to below 1 volt.
4. Turn AGC DELAY Control (R153) on the Back Terminal Board fully clockwise.
SWEEP/MARKER GENERATOR ..... Connect to point ⓓ as shown in figure 4 on the Back Terminal Board. Set to 30 ~ 40 MHz sweep with signal level of 75 ~ 85 dBμ.
OSCILLOSCOPE ..... Connect with direct probe to pin 31 IC101 on the Back Terminal Board through 100k ohm resistor.

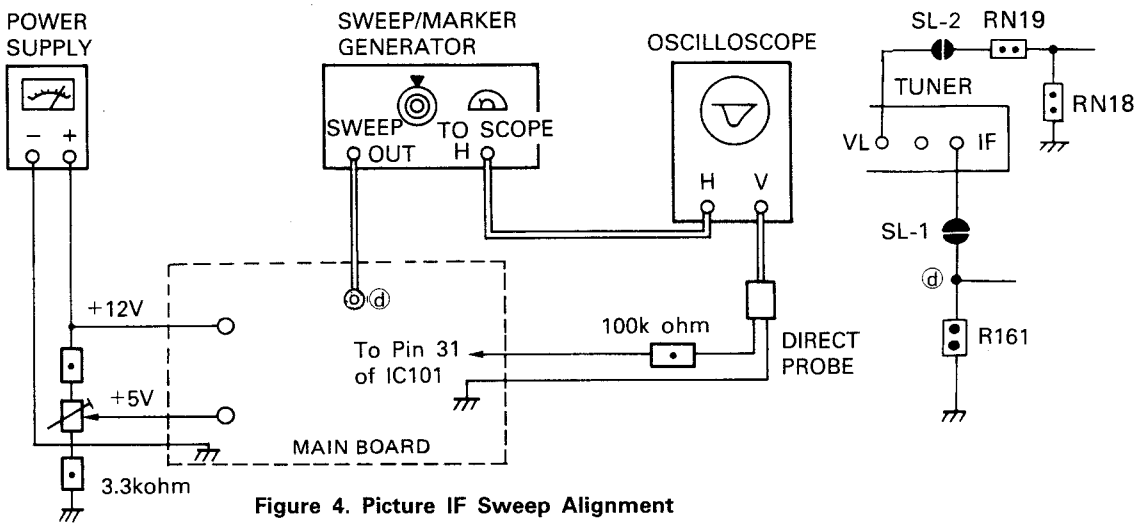


Figure 4. Picture IF Sweep Alignment

STEP	SWEEP/MERKER GENERATOR	ADJUST	REMERKS
1. Detector Coil	37.4 MHz Marker "ON"	L151	● Short the junction of RN24 and RN26 on the Back Terminal Board to ground. ● Supply +3 to +6 volts to pin 4 of IC101 to set the output level for 0.4 Vp-p on the scope. ● Adjust L151 so that the marker position (37.4 MHz) on the response can lower to minimum. (See figure 5.) ● Remove the short of the junction of RN24 and RN26. ● After completing CN51 adjustment, repeat this step again.
2. Detector Capacitor	32.7 MHz Marker "ON"	CN51	● Supply +3 to +6 volts to pin 4 of IC101 to set the detection output for 0.4 Vp-p on the scope. ● Adjust CN51 so that the marker position (32.7 MHz) on the response can lower to minimum. (See figure 5.) ● After completing L151 adjustment, repeat the step again.
After completing the above steps, disconnect the equipment and re-solder the links switch on the receiver, and adjust the AGC Delay control (R153) following DELAYED RF AGC ADJUSTMENTS.			

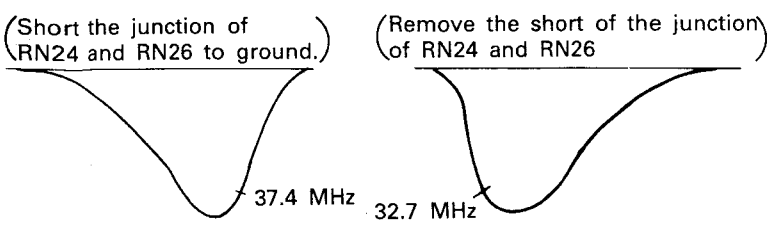


Figure 5. Magnified Response Curve

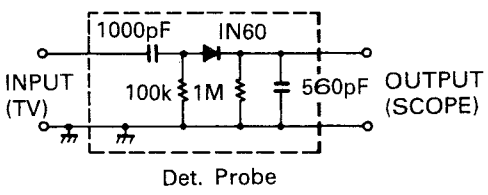


Figure 6.

AFC ALIGNMENT

GENERAL ..... Refer to figure 7 for test equipment connection.
PRELIMINARY STEPS ..... 1. Disconnect the solder links SL-1, SL-2, SL-3 and SL-4 (◀▶ See figure 7) on the foil side of the MAIN Board.
2. Supply +12 volts to the MAIN Board. (See figure 7.)
3. Short the collector of QN03 to Ground to reduce the voltage at pin 30 of IC101 to below 1 volt.
4. Turn AGC DELAY Control (R153) on the IF Board fully clockwise.
DVM ..... Connect to the point ⓔ (R125) and ground.

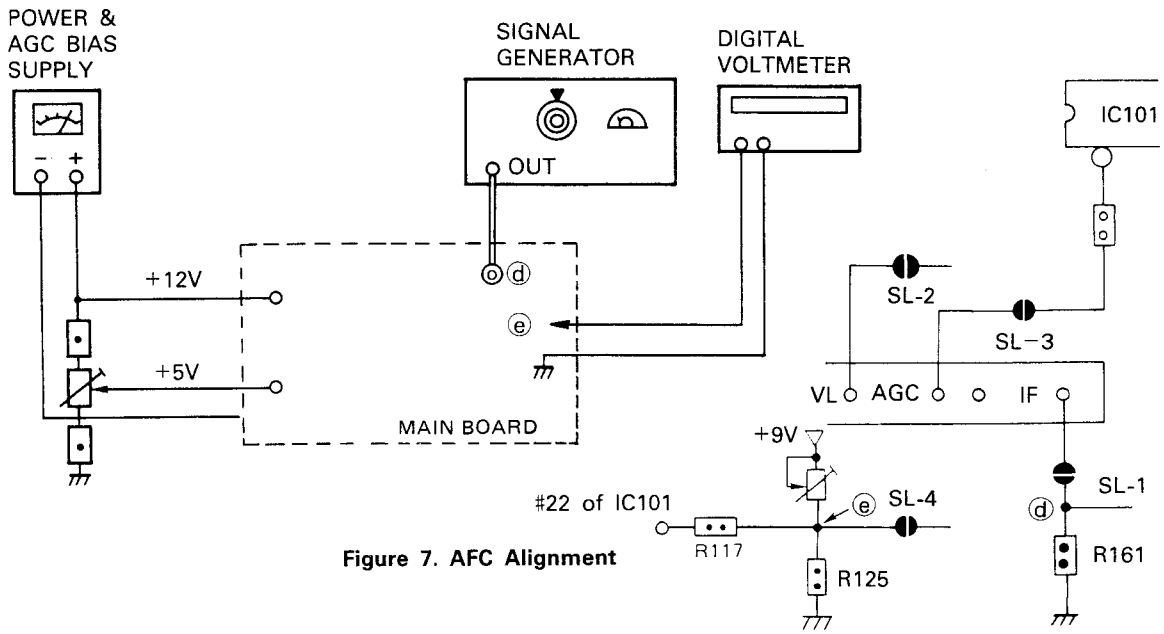


Figure 7. AFC Alignment

STEP	SIGNAL GENERATOR	ADJUST	REMARKS
1. AFC Balacne (R152)	NO SIGNAL	R152	● Short the pin 4 of IC101 to ground. ● Adjust R152 for 4.5 volts at the point ⓔ in figure 7.
2. AFC Coil (L152)	37.4 MHz CARRIER WAVE (Level: 75 to 85 dBμ)	L152	● Remove the short of pin 4 of IC101. ● Short the junction of RN24 and RN26 to ground. ● Connect IF carrier wave to the point ⓓ in figure 7. ● Adjust L152 for 4.3 volts on the meter at the point ⓔ . ● After completing CN52 adjustment, repeat this step again.
3. AFC Capacitor (CN52)	32.7 MHz CARRIER WAVE Level: 75 to 85 dBμ)	CN52	● Remove the short of RN24 and RN26 to ground. ● Connect IF carrier wave to the point ⓓ in figure 6. ● Adjust CN52 for 4.3 volts on the meter at the point ⓔ . ● After completing L152 adjustment repeat this step again.

SECAM DET-OUT & SOUND IF ALIGNMENT

L SECAM DET−OUT (R151) ADJUSTMENT

1. Unsolder the solder link SL−1 to disconnect.
2. Supply +12 V to the Back Terminal Board.
3. Short Base of QN03 to ground to keep the voltage at pin 30 of IC101 in 4 volts.
4. Set AGC to Self AGC condition.
5. Connect synchroscope to pin 31 of IC101 through 10 : 1 probe.
6. Connect the 2-signal generator to IF input, and set up the generator as described below.
   IF frequency: 32.7 MHz
   Signal level : 75 to 85 dBμ
   Video modulation
   Positive modulation: 97%
   Video signal fH : 15.625 kHz
   Picture : Pattern with 100% white
7. Adjust the AC LEVEL Control (R151) for 1.6Vp-p on the scope.

SECAM SOUND DET (L651) ADJUSTMENT

1. Supply +12V to pin 7 of IC601 through 1K ohm resistor.
2. Connect the sweep generator to IF input.
   Sweep range : 30 to 40 MHz
   Level : 75 to 85 dBμ
   Marker : 39.2 MHz
3. Connect the oscilloscope to pin 20 of IC601 through 100 kohm resistor.
4. Apply AGC voltage (1 to 3V) to pin 19 of IC601, and fix the AGC voltage for 0.4 volts of output level on the scope.
5. Adjust SECAM SOUND DET Control (L651) so that the marker point (39.2 MHz) on the response can be maximum.

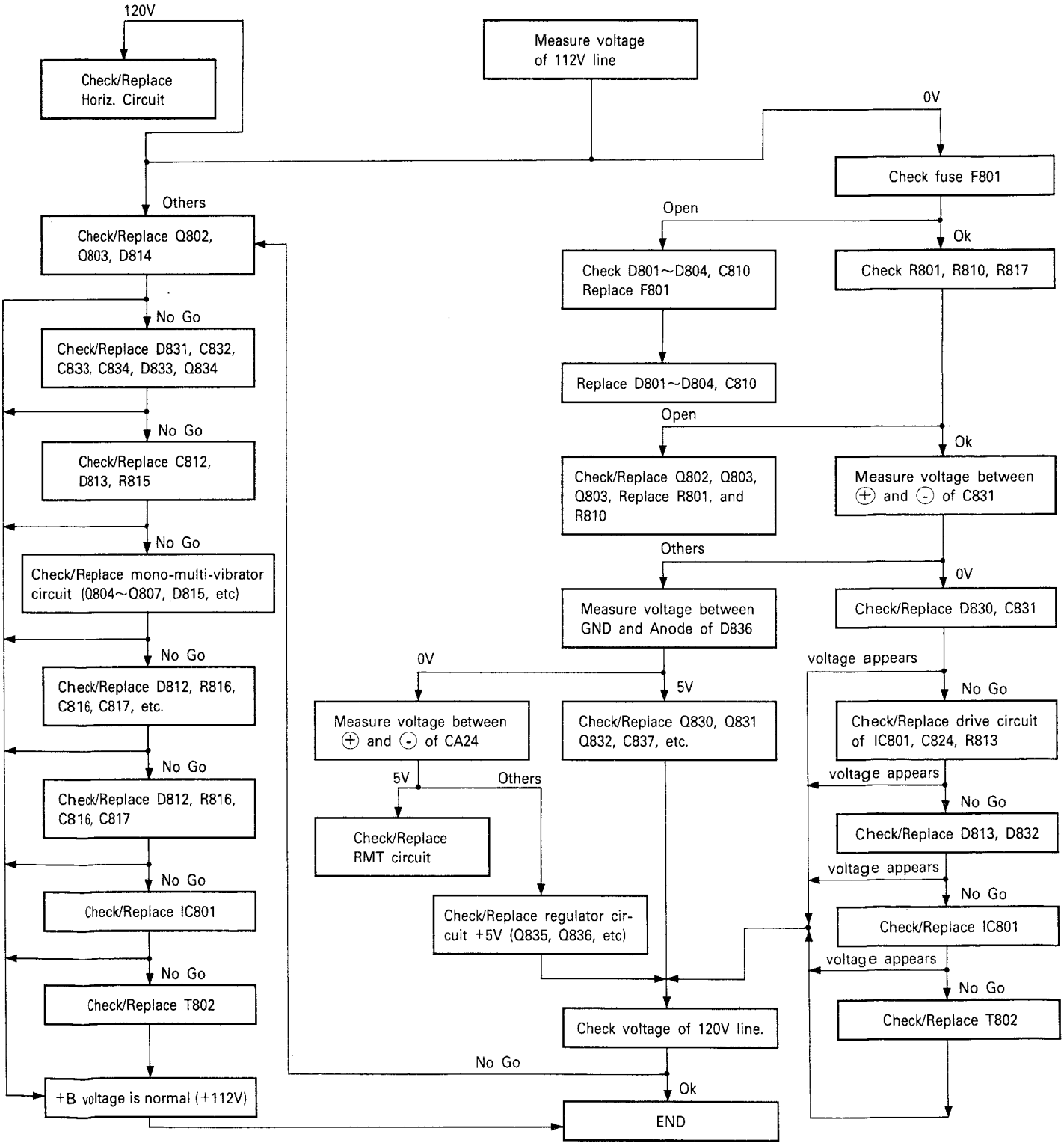
PAL SIF DET (L652) ADJUSTMENT

1. Short pin 7 of IC601 to ground.
2. Connect SIF generator to pin 13 of IC601 thorugh 0.01 μF capacitor.
3. Connect the oscilloscope to pin 20 of IC601.
4. Set up the SIF generator as described below.
   Sound carrier frequency : 5.5 MHz
   Modulation frequency : 1000 Hz
   Frequency deviation : ±15 kHz
   Signal level : 80 dBμ (50 ohm load)
5. Adjust L652 for the maximum response of 1000 Hz det-out on scope.

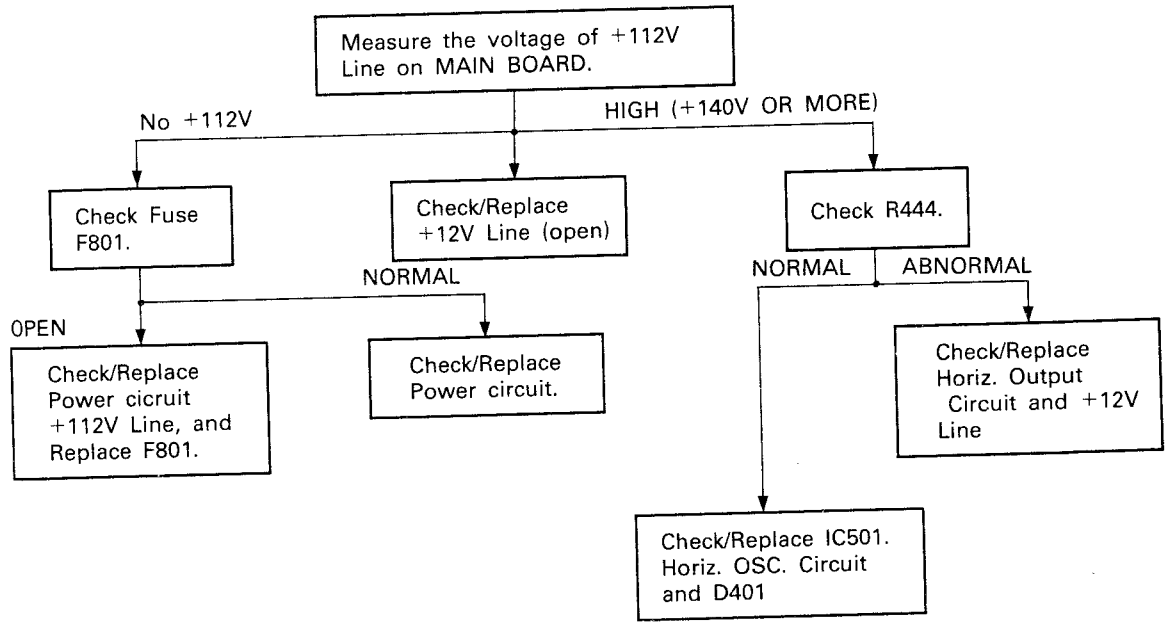
TROUBLESHOOTING CHARTS

The following charts are devoted to troubleshooting which, if followed carefully, will assist you in tracking down a fault to the correct stage.
In order to utilize the charts (fault trees), firstly establish the complaint, i.e. – No Raster, No Sound.
Locate the chart applicable and then progress through the various alternatives until a final block indicates the offending components or stage.

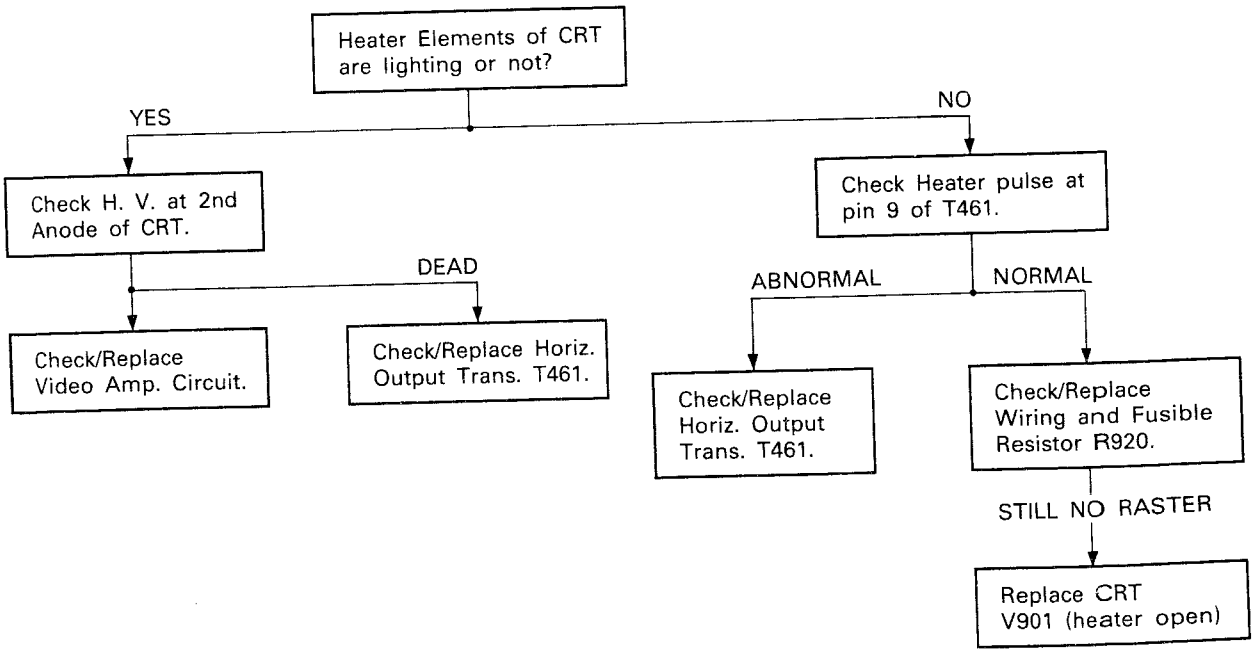
1. NO RASTER AND NO SOUND



2. NO RASTER (NOISE OR WEAK SOUND)

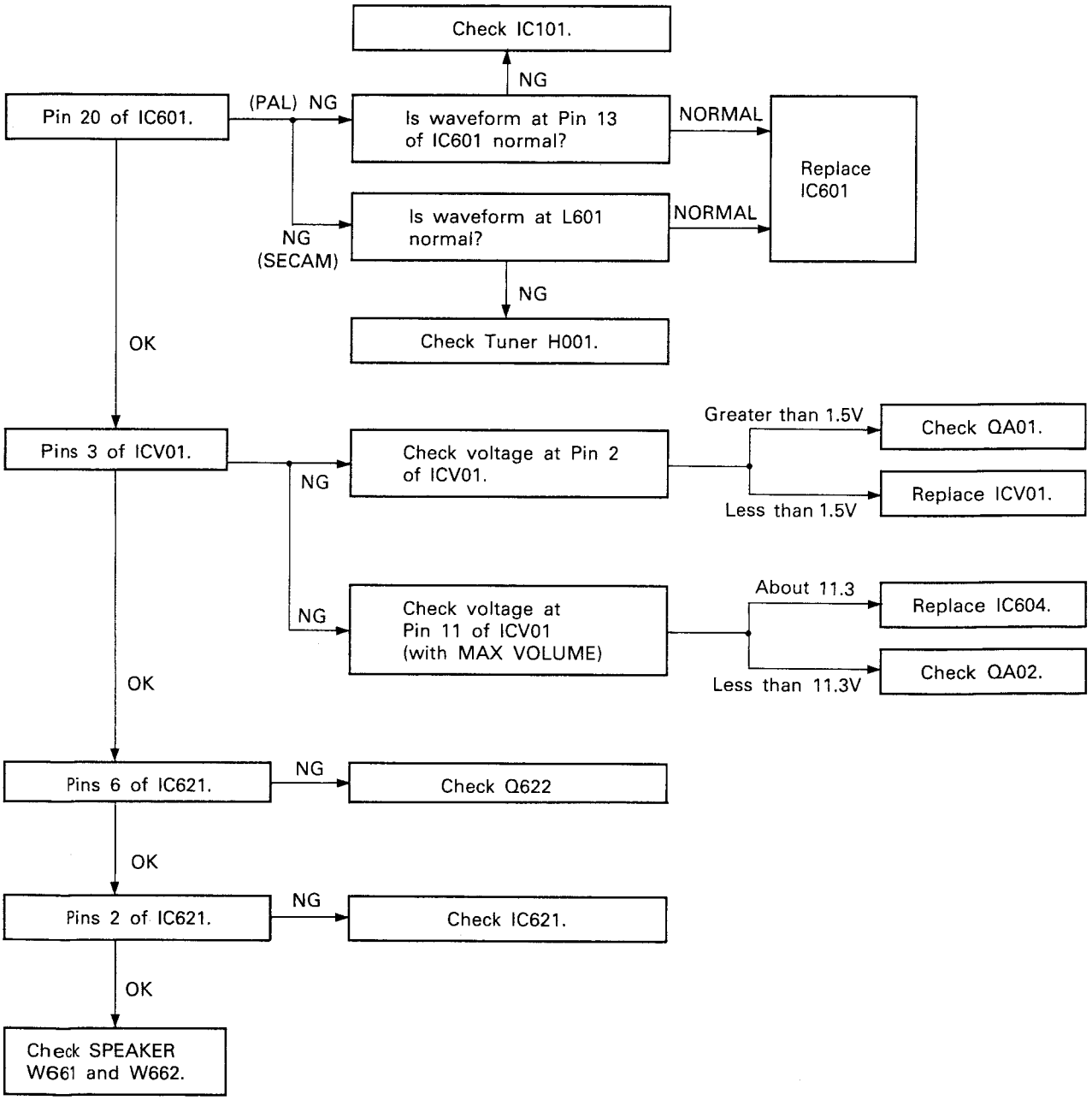


3. NO RASTER (SOUND OK)


Heater Elements of CRT are lighting or not?
YES
NO
Check H. V. at 2nd Anode of CRT.
Check Heater pulse at pin 9 of T461.
DEAD
ABNORMAL
NORMAL
Check/Replace Video Amp. Circuit.
Check/Replace Horiz. Output Trans. T461.
Check/Replace Horiz. Output Trans. T461.
Check/Replace Wiring and Fusible Resistor R920.
STILL NO RASTER
Replace CRT V901 (heater open)

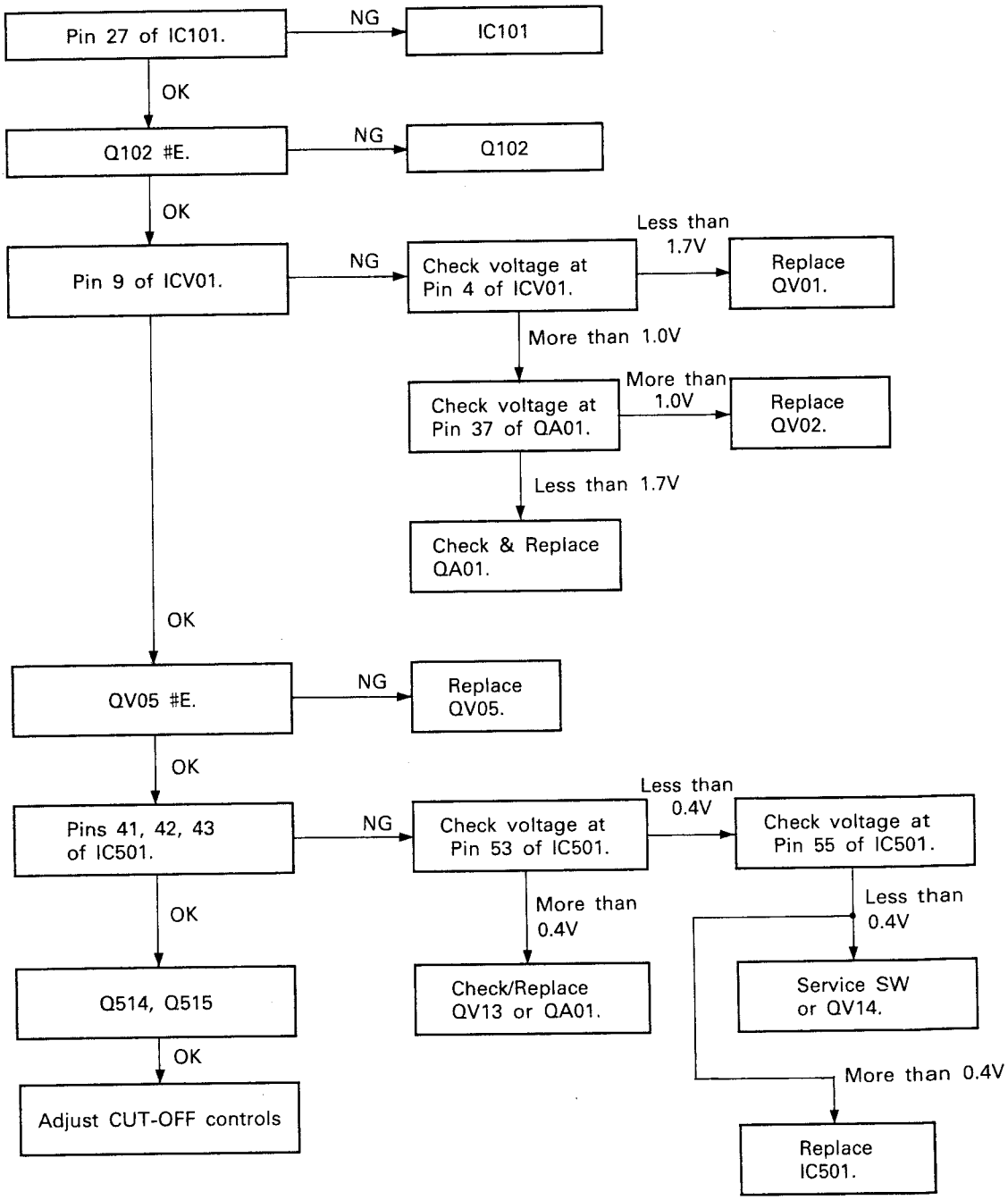
4. NO SOUND

NOTE: Check the sound signal waveform for shaded area below.



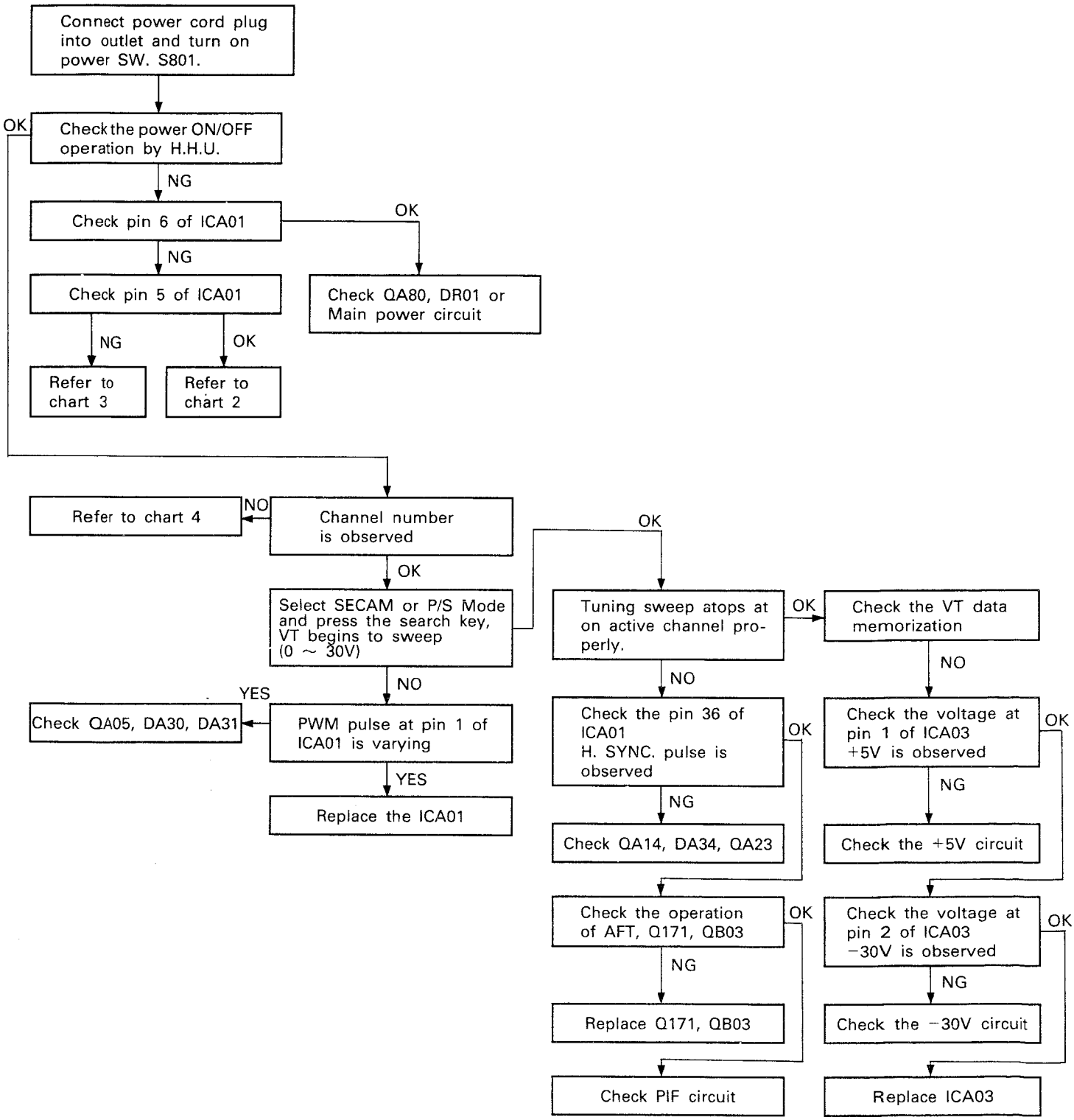
5. NO PICTURE

Check video signal waveform for shaded area below.



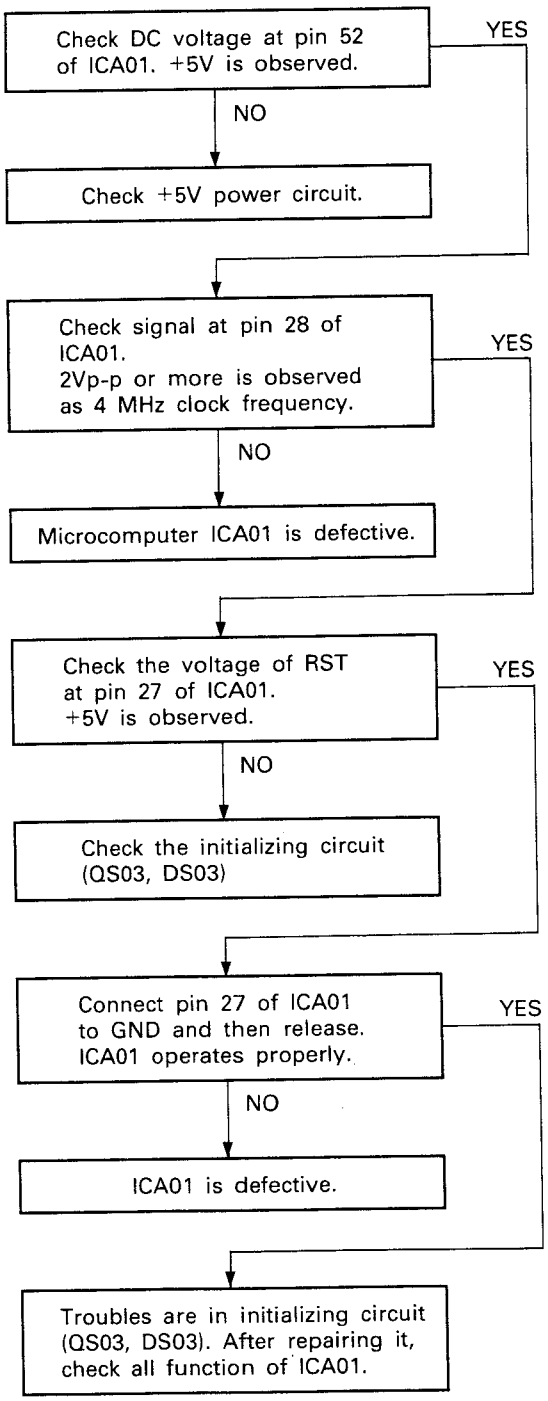
6. CHANNEL SELECTOR TROUBLE

[CHART 1]



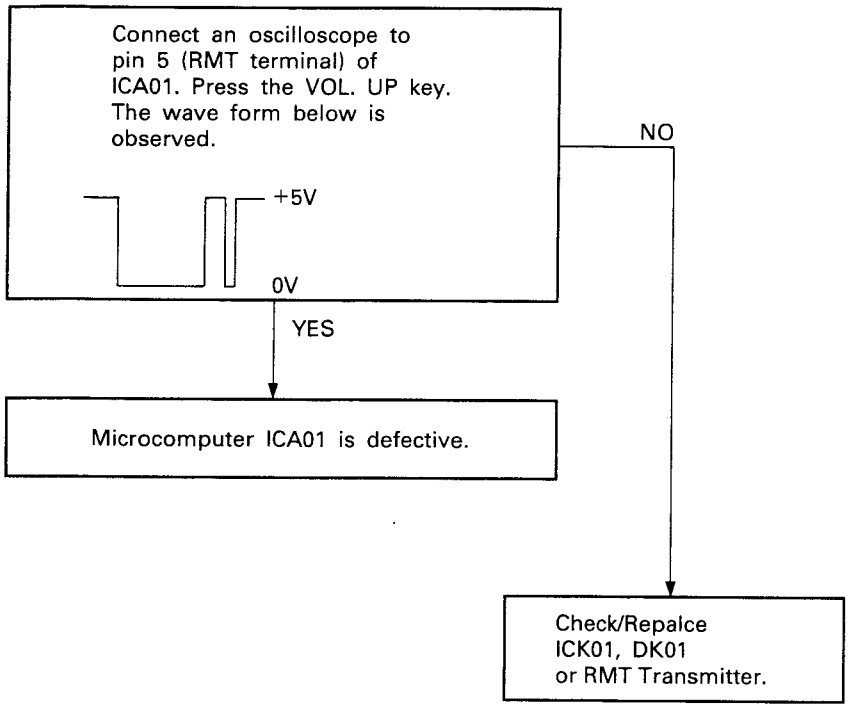
[CHART 2] Microcomputer (ICA01) Operation Check

Note: Before checking Microcomputer, check that control buttons and their connection work properly.


Check DC voltage at pin 52 of ICA01. +5V is observed.
YES
NO
Check +5V power circuit.
Check signal at pin 28 of ICA01. 2Vp-p or more is observed as 4 MHz clock frequency.
YES
NO
Microcomputer ICA01 is defective.
Check the voltage of RST at pin 27 of ICA01. +5V is observed.
YES
NO
Check the initializing circuit (QS03, DS03)
Connect pin 27 of ICA01 to GND and then release. ICA01 operates properly.
YES
NO
ICA01 is defective.
Troubles are in initializing circuit (QS03, DS03). After repairing it, check all function of ICA01.

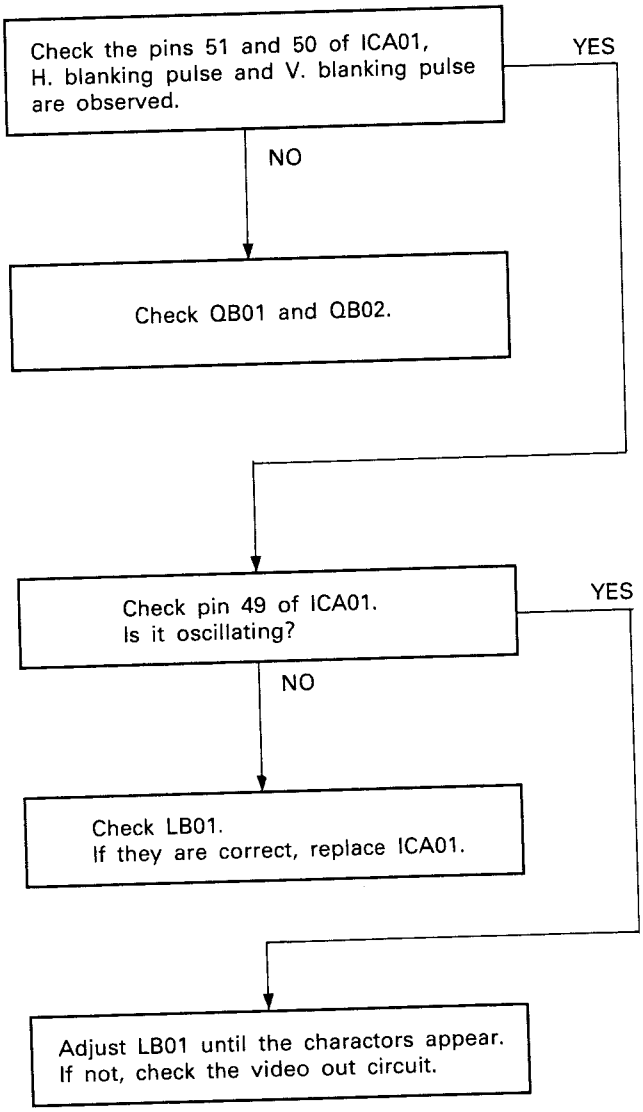
[CHART 3] Remote Control Operation Check

Note: Before checking RMT operation, check that key operation on TV set is proper.

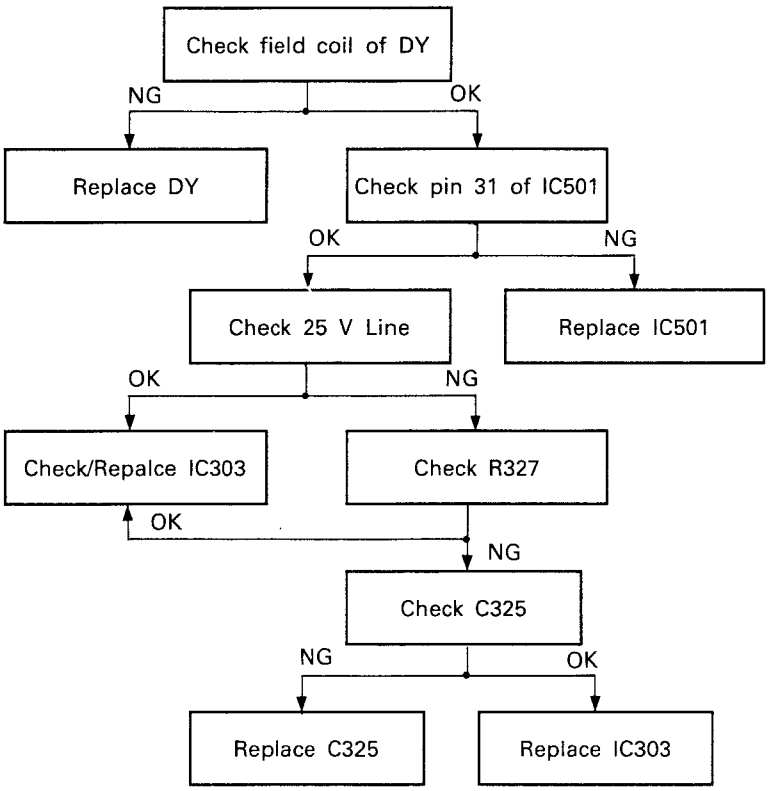

Connect an oscilloscope to pin 5 (RMT terminal) of ICA01. Press the VOL. UP key. The wave form below is observed.
+5V
0V
NO
YES
Microcomputer ICA01 is defective.
Check/Repalce ICK01, DK01 or RMT Transmitter.

[CHART 4]

(1) On Screen Display Operation Check


Check the pins 51 and 50 of ICA01, H. blanking pulse and V. blanking pulse are observed.
YES
NO
Check QB01 and QB02.
Check pin 49 of ICA01. Is it oscillating?
YES
NO
Check LB01. If they are correct, replace ICA01.
Adjust LB01 until the charactors appear. If not, check the video out circuit.

7. NO VERT. SCAN (ONE HORIZ. LINE RASTER)



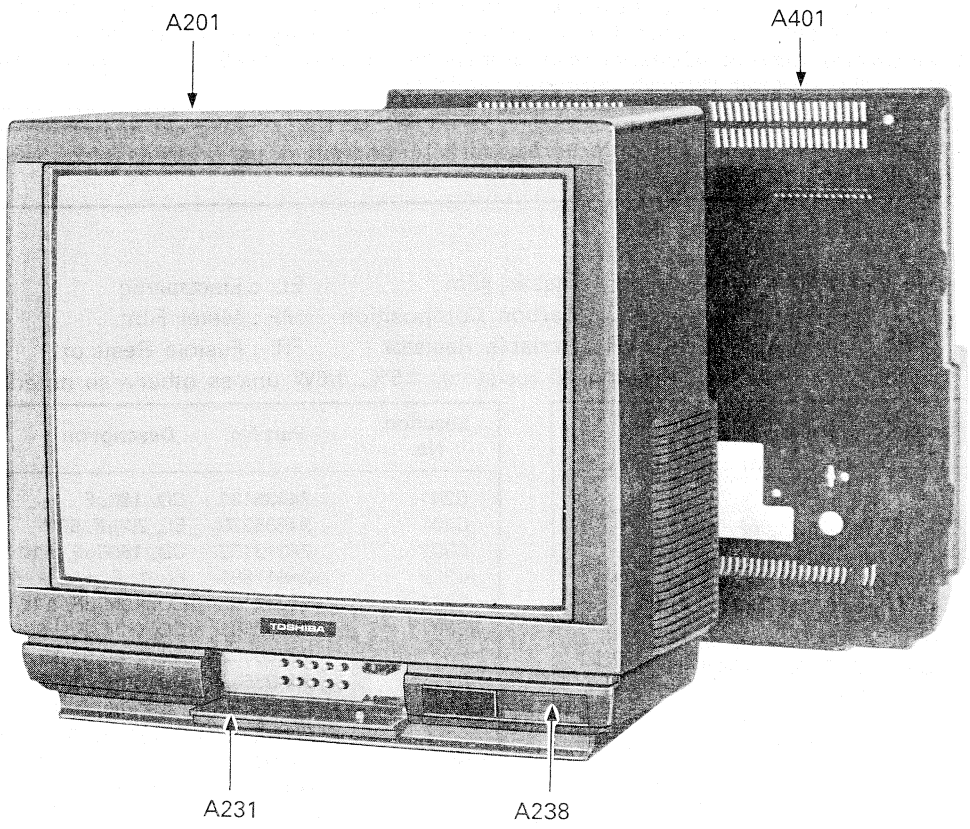
8. OUT OF VERT. SYNC. AND HORIZ. SYNC.

Check/Replace Sync Circuit pin 33 of IC501.

9. OUT OF HORIZ. SYNC.

Check/Replace Horiz. OSC Circuit and Horiz. AFC Circuit connected to Pins 36, 37 and 38 of IC501. Check/Replace IC501.

CABINET REPLACEMENT PARTS LIST



Location No.	Part No.	Description
A201	23417135	Front Cover
A231	23422433	Door
A232	70368125	Push Catch for Door
A238	23443182	Button, POWER
A401	23422357	Back Cover
A411	23995916	Label, Model Number
A701	23523097	Carton Box
A702	23934268	Packing, Top
A703	23934269	Packing, Bottom
B102	23848053	Holder, Back Terminal
Y101	23994447	Owner's Manual
Y125	23124935	Aerial, VHF Telescopic
Y130	23998074	Sticker
Y145	23293988	Adapter, Aerial Matching

CHASSIS REPLACEMENT PARTS LIST

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION" , "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 2 OF THIS MANUAL.

CAUTION: The international hazard symbols in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE on page 2. Do not degrade the safety of the receiver through improper servicing.

NOTICE: The part number must be used when ordering parts, in order to assist in processing, be sure to include the Model number and Description.

ABBREVIATIONS:

Capacitors ..... CD : Ceramic Disk PF : Plastic Film EL : Electrolytic
Resistors ..... CF : Carbon Film CC : Carbon Composition MF : Metal Film
OMF : Oxide Metal Film VR : Variable Resistor FR : Fusible Resistor

(All CD and PF capacitors are ±5%, 50V and all resistors, ±5%, 1/6W unless otherwise noted.)

Location No.	Part No.	Description
CAPACITORS		
C101	24212102	CD, 1000pF, ±10%
C102	24436471	CD, 470pF
C103	24232103	CD, 0.01μF, +80%, −20%
C104	24617993	EL, 1μF, ±20%, 50V
C105	24617993	EL, 1μF, ±20%, 50V
C106	24232103	CD, 0.01μF, +80%, −20%
C107	24636229	EL, 2.2μF, 50V
C108	24636229	EL, 2.2μF, 50V
C110	24232103	CD, 0.01μF, +80%, −20%
C111	24633100	EL, 10μF, 16V
C112	24550153	PF, 0.015μF, 63V
C113	24085988	EL, 1μF, ±20%, 50V, Non-Polar
C114	24636100	EL, 10μF, 50V
C115	24636478	EL, 0.47μF, 50V
C116	24212102	CD, 1000pF, ±10%
C117	24636479	EL, 4.7μF, 50V
C118	24353120	CD, 12pF
C119	24212102	CD, 1000pF, ±10%
C120	24232103	CD, 0.01μF, +80%, −20%
C121	24636100	EL, 10μF, 50V
C122	24232103	CD, 0.01μF, +80%, −20%
C123	24436100	CD, 10pF, ±0.25pF
C124	24212102	CD, 1000pF, ±10%
C126	24436820	CD, 82pF
C161	24212102	CD, 1000pF, ±10%
C162	24232103	CD, 0.01μF, +80%, −20%
C163	24212102	CD, 1000pF, ±10%
C164	24212102	CD, 1000pF, ±10%
C165	24212102	CD, 1000pF, ±10%
C173	24550104	PF, 0.1μF, 63V
C201	24636100	EL, 10μF, 50V
C202	24797101	EL, 100μF, 50V
C203	24232103	CD, 0.01μF, +80%, −20%
C204	24797220	EL, 22μF, 50V
C205	24636478	EL, 0.47μF, 50V
C208	24212102	CD, 1000pF, ±10%
C209	24232103	CD, 0.01μF, +80%, −20%
C210	24636100	EL, 10μF, 50V
C240	24636478	EL, 0.47μF, 50V

Location No.	Part No.	Description
C241	24436181	CD, 180pF
C301	24636229	EL, 2.2μF, 50V
C302	24212152	CD, 1500pF, ±10%
C303	24617891	EL, 1μF, ±10%, 50V
C304	24212102	CD, 1000pF, ±10%
C307	24232103	CD, 0.01μF, +80%, −20%
C311	24796102	EL, 1000μF, 35V
C314	24435510	CD, 51pF, 500V
C316	24795472	EL, 4700μF, 25V
C317	24617981	EL, 2.2μF, ±10%, 50V
C318	24214332	CD, 3300pF, ±10%, 500V
C319	24693622	PF, 6200pF, 100V
C323	24212332	CD, 3300pF, ±10%
C325	24796101	EL, 100μF, 35V
C326	24550563	PF, 0.056μF, 63V
C328	24214472	CD, 4700pF, ±10%, 500V
C403	24636339	EL, 3.3μF, 50V
C405	24593203	PF, 0.02μF
C406	24593203	PF, 0.02μF
C407	24593243	PF, 0.024μF
C408	24794101	EL, 100μF, 16V
C409	24232103	CD, 0.01μF, +80%, −20%
C412	24593182	PF, 1800pF
C413	24593182	PF, 1800pF
C416	24214271	CD, 270pF, ±10%, 500V
C424	24797470	EL, 47μF, 50V
C425	24794101	EL, 100μF, 16V
⚠ C440	24095893	PF, 6200pF, ±3%, 1600V
C441	24214221	CD, 220pF, ±10%, 500V
⚠ C442	24095949	PF, 0.33μF, 200V
⚠ C444	24442391	CD, 390pF, ±10%, 2kV
C445	24095903	PF, 0.056μF, ±10%, 250V
C447	24644479	EL, 4.7μF, 250V
C448	24794222	EL, 2200μF, 16V
C449	24794471	EL, 470μF, 16V
C451	24640908	EL, 33μF, ±20%, 160V
C463	24212222	CD, 2200pF, ±10%
C501	24797220	EL, 22μF, 50V
C502	24436150	CD, 15pF
C503	24436360	CD, 36pF
C504	24232103	CD, 0.01μF, +80%, −20%

Location No.	Part No.	Description
C505	24593273	PF, 0.027μF
C506	24436101	CD, 100pF
C507	24593103	PF, 0.01μF
C508	24085028	EL, 2.2μF, 25V, Non-Polar
C509	24353330	CD, 33pF
C510	24232103	CD, 0.01μF, +80%, −20%
C511	24232103	CD, 0.01μF, +80%, −20%
C512	24353200	CD, 20pF
C513	24436181	CD, 180pF
C514	24436181	CD, 180pF
C515	24636010	EL, 1μF, 50V
C516	24550104	PF, 0.1μF, 63V
C517	24550104	PF, 0.1μF, 63V
C518	24232103	CD, 0.01μF, +80%, −20%
C519	24232103	CD, 0.01μF, +80%, −20%
C520	24636478	EL, 0.47μF, 50V
C521	24550474	PF, 0.47μF, 63V
C522	24550474	PF, 0.47μF, 63V
C523	24550474	PF, 0.47μF, 63V
C524	24232103	CD, 0.01μF, +80%, −20%
C525	24436820	CD, 82pF
C526	24436820	CD, 82pF
C527	24436820	CD, 82pF
C529	24353271	CD, 270pF
C531	24550104	PF, 0.1μF, 63V
C533	24436180	CD, 18pF
C534	24436120	CD, 12pF
C535	24636100	EL, 10μF, 50V
C536	24636478	EL, 0.47μF, 50V
C537	24203101	EL, 100μF, ±20%, 16V
C539	24232103	CD, 0.01μF, +80%, −20%
C603	24436470	CD, 47pF
C604	24436470	CD, 47pF
C605	24598102	PF, 1000pF
C606	24212472	CD, 4700pF, ±10%
C607	24550223	PF, 0.022μF, 63V
C608	24550223	PF, 0.022μF, 63V
C609	24636010	EL, 1μF, 50V
C610	24636479	EL, 4.7μF, 50V
C611	24232103	CD, 0.01μF, +80%, −20%
C614	24636229	EL, 2.2μF, 50V
C620	24636229	EL, 2.2μF, 50V
C621	24636229	EL, 2.2μF, 50V
C622	24436101	CD, 100pF
C623	24530332	PF, 3300pF, ±10%, 63V
C624	24636010	EL, 1μF, 50V
C625	24530224	PF, 0.22μF, ±10%, 63V
C626	24794101	EL, 100μF, 16V
C627	24530104	PF, 0.1μF, ±10%, 63V
C628	24795102	EL, 1000μF, 25V
C629	24795102	EL, 1000μF, 25V
C801	24098999	PF, 0.1μF, ±20%, AC250V
C803(U801)	24094906	CD, 4700pF, +80%, −20%, AC250V
C803(U902A)	24098999	PF, 0.1μF, ±20%, AC250V
C804	24094906	CD, 4700pF, +80%, −20%, AC250V
C805	24094906	CD, 4700pF, +80%, −20%, AC250V
C806	24094906	CD, 4700pF, +80%, −20%, AC250V
C810	24086871	EL, 120μF, ±20%, 400V
C811	24442391	CD, 390pF, ±10%, 2kV
C812	24641220	EL, 22μF, 100V

Location No.	Part No.	Description
C813	24214331	CD, 330pF, ±10%, 500V
C814	24636101	EL, 100μF, 50V
C815	24591223	PF, 0.022μF
C816	24820103	PF, 0.01μF, 630V
C817	24442561	CD, 560pF, ±10%, 2kV
C818	24212681	CD, 680pF, ±10%
C823	24633101	EL, 100μF, 16V
C830	24215181	CD, 180pF, ±10%, 1kV
C831	24086953	EL, 220μF, ±20%, 160V
C832	24795102	EL, 1000μF, 25V
C883	24094656	CD, 2200pF, ±20%, AC400V
C884	24094656	CD, 2200pF, ±20%, AC400V
C901	24644010	EL, 1μF, 250V
C902	24095981	PF, 2200pF, 1600V
CA01	24794470	EL, 47μF, 16V
CA02	24232103	CD, 0.01μF, +80%, −20%
CA03	24633100	EL, 10μF, 16V
CA04	24436300	CD, 30pF
CA05	24436300	CD, 30pF
CA06	24232103	CD, 0.01μF, +80%, −20%
CA07	24633100	EL, 10μF, 16V
CA08	24636100	EL, 10μF, 50V
CA09	24436391	CD, 390pF
CA10	24436221	CD, 220pF
CA11	24550104	PF, 0.1μF, 63V
CA12	24550104	PF, 0.1μF, 63V
CA13	24794102	EL, 1000μF, 16V
CA14	24636479	EL, 4.7μF, 50V
CA15	24636100	EL, 10μF, 50V
CA16	24797220	EL, 22μF, 50V
CA17	24550104	PF, 0.1μF, 63V
CA18	24636229	EL, 2.2μF, 50V
CA19	24232103	CD, 0.01μF, +80%, −20%
CA22	24232103	CD, 0.01μF, +80%, −20%
CA23	24212222	CD, 2200pF, ±10%
CA25	24636010	EL, 1μF, 50V
CA28	24212102	CD, 1000pF, ±10%
CA29	24432101	CD, 100pF, ±10%
CA30	24432101	CD, 100pF, ±10%
CA31	24432101	CD, 100pF, ±10%
CA32	24232103	CD, 0.01μF, +80%, −20%
CA33	24432101	CD, 100pF, ±10%
CA35	24232103	CD, 0.01μF, +80%, −20%
CA36	24232103	CD, 0.01μF, +80%, −20%
CA37	24232103	CD, 0.01μF, +80%, −20%
CB01	24232103	CD, 0.01μF, +80%, −20%
CB02	24436101	CD, 100pF
CB03	24436101	CD, 100pF
CH15	24206010	EL, 1μF, 50V
CH20	24206010	EL, 1μF, 50V
CH21	24206010	EL, 1μF, 50V
CH60	24636100	EL, 10μF, 50V
CH61	24206010	EL, 1μF, 50V
CM01	24436201	CD, 200pF
CM02	24436201	CD, 200pF
CM03	24340080	CD, 8pF, ±0.25pF
CM04	24340080	CD, 8pF, ±0.25pF
CM05	24232103	CD, 0.01μF, +80%, −20%
CM06	24357270	CD, 27pF
CM07	24593273	PF, 0.027μF
CM08	24232103	CD, 0.01μF, +80%, −20%
CN11	24353240	CD, 24pF
CN12	24232103	CD, 0.01μF, +80%, −20%
CN13	24353220	CD, 22pF

Location No.	Part No.	Description
CN15	24232103	CD, 0.01μF, +80%, −20%
CN16	24353220	CD, 22pF
CN17	24353220	CD, 22pF
CN18	24636010	EL, 1μF, 50V
CN51	24094959	Variable Capacitor, 2 to 12pF, 50V
CN52	24094959	Variable Capacitor, 2 to 12pF, 50V
CR01	24095877	PF, 1000pF
CR02	24436470	CD, 47pF
CR03	24633220	EL, 22μF, 16V
CS01	24798470	EL, 47μF, 100V
CS02	24636100	EL, 10μF, 50V
CS03	24633470	EL, 47μF, 16V
CS04	24633100	EL, 10μF, 16V
CS05	24214331	CD, 330pF, ±10%, 500V
CV01	24636010	EL, 1μF, 50V
CV02	24550224	PF, 0.22μF, 63V
CV03	24232103	CD, 0.01μF, +80%, −20%
CV04	24636100	EL, 10μF, 50V
CV10	24794331	EL, 330μF, 16V
CV11	24795470	EL, 47μF, 25V
CV60	24085031	EL, 1μF, ±20%, 25V, Non-Polar
CV61	24633100	EL, 10μF, 16V
CV70	24636010	EL, 1μF, 50V
CV71	24636010	EL, 1μF, 50V
CV72	24636010	EL, 1μF, 50V
CV80	24636100	EL, 10μF, 50V
CV81	24232103	CD, 0.01μF, +80%, −20%
CV82	24794102	EL, 1000μF, 16V
CV83	24232103	CD, 0.01μF, +80%, −20%
CV84	24633470	EL, 47μF, 16V
CV85	24232103	CD, 0.01μF, +80%, −20%
CV86	24636100	EL, 10μF, 50V
CX02	24550104	PF, 0.1μF, 63V
CX03	24550104	PF, 0.1μF, 63V
CX04	24550104	PF, 0.1μF, 63V

RESISTORS

R101	24366222	CF, 2200 ohm
R103	24366392	CF, 3900 ohm
R104	24366123	CF, 12k ohm
R105	24366104	CF, 100k ohm
R106	24360185	CF, 1.8M ohm, 1/8W
R107	24366222	CF, 2200 ohm
R108	24366332	CF, 3300 ohm
R109	24366684	CF, 680k ohm
R110	24366562	CF, 5600 ohm
R111	24366271	CF, 270 ohm
R112	24366331	CF, 330 ohm
R113	24366184	CF, 180k ohm
R114	24366101	CF, 100 ohm
⚠ R115	24552681	OMF, 680 ohm, 1/2W
R116	24366101	CF, 100 ohm
R117	24366101	CF, 100 ohm
R118	24366332	CF, 3300 ohm
R119	24366102	CF, 1k ohm
R120	24366562	CF, 5600 ohm
R121	24366332	CF, 3300 ohm
R122	24366152	CF, 1500 ohm
R123	24366391	CF, 390 ohm
R124	24366223	CF, 22k ohm
R125	24366334	CF, 330k ohm

Location No.	Part No.	Description
R126	24366122	CF, 1200 ohm
R127	24366153	CF, 15k ohm
R128	24366222	CF, 2200 ohm
R130	24366332	CF, 3300 ohm
R151	24066952	VR, 10k ohm, 1/10W
R152	24066946	VR, 1M ohm, 1/10W
R153	24066953	VR, 5k ohm, 1/10W
R161	24366331	CF, 330 ohm
R162	24366102	CF, 1k ohm
R163	24366682	CF, 6800 ohm
⚠ R164	24552101	OMF, 100 ohm, 1/2W
R166	24366390	CF, 39 ohm
R167	24366680	CF, 68 ohm
R168	24366562	CF, 5600 ohm
R173	24366102	CF, 1k ohm
R202	24366182	CF, 1800 ohm
R203	24366471	CF, 470 ohm
R207	24366102	CF, 1k ohm
R208	24366101	CF, 100 ohm
R209	24366103	CF, 10k ohm
R210	24366203	CF, 20k ohm
R211	24366622	CF, 6200 ohm
R212	24366103	CF, 10k ohm
R213	24366101	CF, 100 ohm
R214	24366182	CF, 1800 ohm
R216	24366133	CF, 13k ohm
R218	24366222	CF, 2200 ohm
R219	24366103	CF, 10k ohm
R220	24366202	CF, 2k ohm
R221	24366822	CF, 8200 ohm
R225	24366103	CF, 10k ohm
R241	24366104	CF, 100k ohm
R243	24366104	CF, 100k ohm
R252	24061591	VR, 2k ohm, 1/8W
R253	24061591	VR, 2k ohm, 1/8W
R255	24061608	VR, 10k ohm, 1/10W
R301	24366301	CF, 300 ohm
R302	24366244	CF, 240k ohm
R303	24366623	CF, 62k ohm
R304	24366102	CF, 1k ohm
R305	24366161	CF, 160 ohm
⚠ R311	24552242	OMF, 2400 ohm, 1/2W
R312	24366223	CF, 22k ohm
R313	24366754	CF, 750k ohm
R318	24366102	CF, 1k ohm
R320	24366102	CF, 1k ohm
⚠ R321	24552102	OMF, 1k ohm, 1/2W
⚠ R322	24552102	OMF, 1k ohm, 1/2W
⚠ R323	24322129	OMF, 1.2 ohm, 1W
R324	24366153	CF, 15k ohm
⚠ R327	24532100	FR, 10 ohm, 1W
⚠ R340	24552122	OMF, 1200 ohm, 1/2W
⚠ R341	24552122	OMF, 1200 ohm, 1/2W
⚠ R342	24552122	OMF, 1200 ohm, 1/2W
R351	24061605	VR, 100k ohm, 1/10W
⚠ R361	24383102	OMF, 1k ohm, 2W
R403	24366302	CF, 3k ohm
R405	24366511	CF, 510 ohm
R407	24366201	CF, 200 ohm
R408	24366302	CF, 3k ohm
⚠ R410	24552432	OMF, 4300 ohm, 1/2W
R411	24366391	CF, 390 ohm
R412	24366121	CF, 120 ohm
⚠ R413	24384682	OMF, 6800 ohm, 3W

Location No.	Part No.	Description
⚠ R416	24384202	OMF, 2k ohm, 3W
⚠ R420	24553102	OMF, 1k ohm, 1W
⚠ R421	24553102	OMF, 1k ohm, 1W
⚠ R423	24552221	OMF, 220 ohm, 1/2W
R440	24376103	CF, 10k ohm, 1/2W
R441	24376103	CF, 10k ohm, 1/2W
⚠ R444	24321109	OMF, 1 ohm, 1/2W
⚠ R448	24000906	FR, 2.4 ohm, 2W
R451	24066938	VR, 20k ohm, 1/10W
R452	24069814	VR, 5k ohm, 0.08W, CC
R502	24366334	CF, 330k ohm
R503	24366202	CF, 2k ohm
R504	24366391	CF, 390 ohm
R505	24366822	CF, 8200 ohm
R506	24366561	CF, 560 ohm
R507	24366822	CF, 8200 ohm
R508	24366561	CF, 560 ohm
R509	24366203	CF, 20k ohm
R511	24366562	CF, 5600 ohm
R512	24366152	CF, 1500 ohm
R513	24366152	CF, 1500 ohm
R514	24366562	CF, 5600 ohm
R515	24366221	CF, 220 ohm
R516	24366221	CF, 220 ohm
R517	24366221	CF, 220 ohm
R520	24366103	CF, 10k ohm
R521	24366102	CF, 1k ohm
R522	24366102	CF, 1k ohm
R523	24366472	CF, 4700 ohm
R524	24366473	CF, 47k ohm
R525	24366473	CF, 47k ohm
R526	24366332	CF, 3300 ohm
R527	24360185	CF, 1.8M ohm, 1/8W
R529	24366273	CF, 27k ohm
R531	24366102	CF, 1k ohm
R532	24366272	CF, 2700 ohm
R533	24366132	CF, 1300 ohm
R534	24376823	CF, 82k ohm, 1/2W
R535	24366302	CF, 3k ohm
R536	24376823	CF, 82k ohm, 1/2W
R537	24366132	CF, 1300 ohm
R538	24366332	CF, 3300 ohm
R539	24366132	CF, 1300 ohm
R540	24376823	CF, 82k ohm, 1/2W
R541	24366821	CF, 820 ohm
R542	24366271	CF, 270 ohm
R543	24366512	CF, 5100 ohm
R544	24366101	CF, 100 ohm
R545	24366101	CF, 100 ohm
R547	24366471	CF, 470 ohm
R548	24366471	CF, 470 ohm
R549	24366471	CF, 470 ohm
R551	24066955	VR, 1k ohm, 1/10W
R557	24061591	VR, 2k ohm, 1/8W
R558	24061591	VR, 2k ohm, 1/8W
R559	24061591	VR, 2k ohm, 1/8W
R560	24366752	CF, 7500 ohm
R561	24366752	CF, 7500 ohm
R562	24366752	CF, 7500 ohm
R563	24366104	CF, 100k ohm
R564	24366101	CF, 100 ohm
R565	24366101	CF, 100 ohm
R566	24366101	CF, 100 ohm
⚠ R591	24383153	OMF, 15k ohm, 2W

Location No.	Part No.	Description
⚠ R592	24383153	OMF, 15k ohm, 2W
⚠ R593	24383153	OMF, 15k ohm, 2W
R601	24366151	CF, 150 ohm
R602	24366102	CF, 1k ohm
R603	24366102	CF, 1k ohm
R606	24366272	CF, 2700 ohm
R607	24366473	CF, 47k ohm
R608	24366103	CF, 10k ohm
R609	24366331	CF, 330 ohm
R613	24366102	CF, 1k ohm
R614	24366332	CF, 3300 ohm
R615	24366124	CF, 120k ohm
R616	24366124	CF, 120k ohm
R617	24366473	CF, 47k ohm
R618	24366472	CF, 4700 ohm
R620	24366682	CF, 6800 ohm
R621	24366153	CF, 15k ohm
R622	24366222	CF, 2200 ohm
R623	24366682	CF, 6800 ohm
R624	24366102	CF, 1k ohm
R625	24366334	CF, 330k ohm
⚠ R626	24321479	OMF, 4.7 ohm, 1/2W
⚠ R627	24322569	OMF, 5.6 ohm, 1W
⚠ R801	24007688	Cement, 6.2 ohm, 9W
⚠ R810	24000838	FR, 0.33 ohm, ±10%, 2W
R811	24377224	CF, 220k ohm, 1W
⚠ R812	24322689	OMF, 6.8 ohm, 1W
⚠ R813	24383470	OMF, 47 ohm, 2W
R814	24366681	CF, 680 ohm
⚠ R815	24321479	OMF, 4.7 ohm, 1/2W
⚠ R816	24384683	OMF, 68k ohm, 3W
R818	24366561	CF, 560 ohm
R820	24890134	CF, 130k ohm, 1/4W
⚠ R827	24321398	OMF, 0.39 ohm, 1/2W
⚠ R830	24321398	OMF, 0.39 ohm, 1/2W
⚠ R833	24009953	OMF, 10k ohm, 3W
R834	24366682	CF, 6800 ohm
R835	24366102	CF, 1k ohm
R860	24942565	CC, 5.6M ohm, 1/2W
⚠ R890	24000630	PTC Thermistor, Dual
R901	24946272	CC, 2700 ohm, ±10%, 1/2W
R902	24946272	CC, 2700 ohm, ±10%, 1/2W
R903	24946272	CC, 2700 ohm, ±10%, 1/2W
⚠ R920	24000910	FR, 2.4 ohm, 2W
RA01	24366472	CF, 4700 ohm
RA02	24366123	CF, 12k ohm
RA03	24366562	CF, 5600 ohm
RA04	24366103	CF, 10k ohm
RA06	24366102	CF, 1k ohm
RA10	24366102	CF, 1k ohm
RA11	24366102	CF, 1k ohm
RA12	24366102	CF, 1k ohm
RA13	24366102	CF, 1k ohm
RA14	24366103	CF, 10k ohm
RA15	24366103	CF, 10k ohm
RA16(U902A)	24366102	CF, 1k ohm
RA16(U903B)	24366133	CF, 13k ohm
RA17(U902A)	24366102	CF, 1k ohm
RA17(U903B)	24366473	CF, 47k ohm
RA18(U903A)	24366102	CF, 1k ohm
RA18(U903B)	24366473	CF, 47k ohm
RA19	24366103	CF, 10k ohm
RA20	24366182	CF, 1800 ohm
RA21	24366392	CF, 3900 ohm

Location No.	Part No.	Description
RA22	24366911	CF, 910 ohm
RA23	24366432	CF, 4300 ohm
RA26	24366104	CF, 100k ohm
RA28	24366103	CF, 10k ohm
RA29	24366434	CF, 430k ohm
RA30	24366223	CF, 22k ohm
RA32	24366102	CF, 1k ohm
RA36	24366473	CF, 47k ohm
RA39	24366163	CF, 16k ohm
RA43	24366223	CF, 22k ohm
RA46	24366102	CF, 1k ohm
RA47	24366102	CF, 1k ohm
RA48	24366102	CF, 1k ohm
RA49	24366102	CF, 1k ohm
⚠ RA53	24383183	OMF, 18k ohm, 2W
RA54	24366102	CF, 1k ohm
RA55	24366223	CF, 22k ohm
RA56	24366333	CF, 33k ohm
RA57	24366333	CF, 33k ohm
RA58	24366333	CF, 33k ohm
RA59	24366333	CF, 33k ohm
RA61	24366102	CF, 1k ohm
RA62	24366102	CF, 1k ohm
RA63	24366102	CF, 1k ohm
RA67	24366273	CF, 27k ohm
RA69	24366272	CF, 2700 ohm
RA70	24366104	CF, 100k ohm
RA71	24366104	CF, 100k ohm
RA72	24366223	CF, 22k ohm
RA73	24366104	CF, 100k ohm
RA76	24366682	CF, 6800 ohm
RA80	24366272	CF, 2700 ohm
RA81	24366103	CF, 10k ohm
RA82	24366431	CF, 430 ohm
RA92	24890225	CF, 2.2M ohm, 1/4W
⚠ RA97	24383163	OMF, 16k ohm, 2W
RA98	24366102	CF, 1k ohm
RB01	24366472	CF, 4700 ohm
RB02	24366302	CF, 3k ohm
RB03	24366103	CF, 10k ohm
RB04	24366103	CF, 10k ohm
RB05	24366302	CF, 3k ohm
RB06	24366562	CF, 5600 ohm
RH01	24366680	CF, 68 ohm
RH02	24366471	CF, 470 ohm
RH03	24366562	CF, 5600 ohm
RH04	24366562	CF, 5600 ohm
RH05	24890220	CF, 22 ohm, 1/4W
RH06	24890220	CF, 22 ohm, 1/4W
RH07	24366220	CF, 22 ohm
RH20	24366510	CF, 51 ohm
RH21	24366510	CF, 51 ohm
RH23	24366510	CF, 51 ohm
RH24	24366102	CF, 1k ohm
RH25	24366430	CF, 43 ohm
RH26	24366820	CF, 82 ohm
RH60	24366122	CF, 1200 ohm
RH61	24366102	CF, 1k ohm
RH62	24366102	CF, 1k ohm
RM03	24366272	CF, 2700 ohm
RM04	24366432	CF, 4300 ohm
RM05	24366471	CF, 470 ohm
RM07	24366471	CF, 470 ohm
RN11	24366473	CF, 47k ohm

Location No.	Part No.	Description
RN14	24366152	CF, 1500 ohm
RN15	24366103	CF, 10k ohm
RN16	24366473	CF, 47k ohm
RN17	24366152	CF, 1500 ohm
RN18	24366103	CF, 10k ohm
RN19	24366103	CF, 10k ohm
RN20	24366562	CF, 5600 ohm
RN21	24366562	CF, 5600 ohm
RN22	24366152	CF, 1500 ohm
RN23	24366472	CF, 4700 ohm
RN24	24366472	CF, 4700 ohm
RN25	24366472	CF, 4700 ohm
RN26	24366472	CF, 4700 ohm
RN33	24366223	CF, 22k ohm
⚠ RR01	24327823	MF, 82k ohm, ±1%, 1/4W
RR02	24366472	CF, 4700 ohm
RR03	24366472	CF, 4700 ohm
RR04	24366102	CF, 1k ohm
RR05	24366102	CF, 1k ohm
RR06	24366103	CF, 10k ohm
RR81	24366182	CF, 1800 ohm
RR82	24890103	CF, 10k ohm, 1/4W
RR83	24366272	CF, 2700 ohm
RR84	24376683	CF, 68k ohm, 1/2W
⚠ RS01	24321109	OMF, 1 ohm, 1/2W
RS03	24890472	CF, 4700 ohm, 1/4W
⚠ RS04	24382821	OMF, 820 ohm, 1W
⚠ RS05	24531150	FR, 15 ohm, 1/2W
RS06	24890152	CF, 1500 ohm, 1/4W
RS07	24366102	CF, 1k ohm
RS08	24366330	CF, 33 ohm
RV01	24366821	CF, 820 ohm
RV02	24366561	CF, 560 ohm
RV03	24366101	CF, 100 ohm
⚠ RV04	24552391	OMF, 390 ohm, 1/2W
RV05	24366279	CF, 2.7 ohm
RV06	24366101	CF, 100 ohm
RV07	24366101	CF, 100 ohm
RV10	24366221	CF, 220 ohm
RV11	24366221	CF, 220 ohm
RV12	24366221	CF, 220 ohm
⚠ RV13	24552391	OMF, 390 ohm, 1/2W
RV14	24366332	CF, 3300 ohm
RV15	24366103	CF, 10k ohm
RV16	24366103	CF, 10k ohm
RV17	24366103	CF, 10k ohm
RV18	24366152	CF, 1500 ohm
RV30	24366103	CF, 10k ohm
RV31	24366472	CF, 4700 ohm
RV32	24366272	CF, 2700 ohm
RV35	24366103	CF, 10k ohm
RV36	24366103	CF, 10k ohm
RV37	24366103	CF, 10k ohm
RV39	24366222	CF, 2200 ohm
RV42	24366332	CF, 3300 ohm
RV43	24366472	CF, 4700 ohm
RV44	24366103	CF, 10k ohm
RV45	24366472	CF, 4700 ohm
RV46	24366222	CF, 2200 ohm
RV48	24366103	CF, 10k ohm
RV49	24366102	CF, 1k ohm
RV60	24366101	CF, 100 ohm
RV61	24366101	CF, 100 ohm
RV62	24366101	CF, 100 ohm

Location No.	Part No.	Description
RV63	24366102	CF, 1k ohm
RV64	24366682	CF, 6800 ohm
RV65	24366223	CF, 22k ohm
RV66	24366102	CF, 1k ohm
RV67	24366102	CF, 1k ohm
RV68	24366101	CF, 100 ohm
RV73	24366821	CF, 820 ohm
RV74	24366821	CF, 820 ohm
RV75	24366821	CF, 820 ohm
RV76	24366392	CF, 3900 ohm
RV77	24366392	CF, 3900 ohm
RV78	24366392	CF, 3900 ohm
⚠ RV80	24552181	OMF, 180 ohm, 1/2W
⚠ RV81	24552181	OMF, 180 ohm, 1/2W
⚠ RV82	24552271	OMF, 270 ohm, 1/2W
RV92	24366562	CF, 5600 ohm
RV94	24366102	CF, 1k ohm
RX02	24366102	CF, 1k ohm
RX05	24366101	CF, 100 ohm
RX08	24366101	CF, 100 ohm
RX10	24366101	CF, 100 ohm
RX13	24366102	CF, 1k ohm

COILS & TRANSFORMERS

L101	23221803	Coil, Choke, TLN3040D
L102	23262680	Coil, IF Coil, TRF1148D
L107	23238920	Coil, Peaking, TRF4150AC
L108	23238928	Coil, Peaking, TRF4339AC
L151	23262813	Coil, IF Coil, TRF1077D
L152	23262813	Coil, IF Coil, TRF1077D
L162	23221047	Coil, RF Choke, TRF9201
L203	23237981	Coil, Peaking, TRF4330AC
L204	23238916	Coil, Peaking, TRF4330AC
L311	23261974	Coil (Ferrite Bead), HC5-035
L406	23103940	Coil (Ferrite Bead), TEM2001
L410	23221026	Coil, Choke, AZ9004Y
⚠ L411	23222667	Coil, Linearity, TLN2062
L412	23221970	Coil, Choke, TLN3009
⚠ L462	23227439	Deflection Yoke, AT6060/00
L501	23238918	Coil, Peaking, TRF4220AC
L503	23237987	Coil, Peaking, TRF4100AC
L551	23250972	Coil, 1H-Delay Matching, TRF5418D
L601	23261986	Coil, RF Choke, TRF9220
L602	23262835	Coil, PIF, TRF1058D
L603	23238928	Coil, Peaking, TRF4339AC
L605	23238921	Coil, Peaking, TRF4120AC
L651	23262813	Coil, IF Coil, TRF1077D
L652	23232942	Coil, Variable, TRF3077
L802	23103940	Coil (Ferrite Bead), TEM2001
L803	23103940	Coil (Ferrite Bead), TEM2001
L830	23261975	Coil, Choke, TRF9229
L831	23221060	Coil, Choke, TLN1015E
L832	23221060	Coil, Choke, TLN1015E
⚠ L901	23200780	Coil, Degaussing, TSB-2230
LA01	23237999	Coil, Peaking, TRF4109AC
LA02	23239831	Coil, Peaking, TRF4229AJ
LA03	23239831	Coil, Peaking, TRF4229AJ
LB01	23262778	Coil, IF Coil, TRF1112
LM01	23262797	Coil, IF Coil, TRF1093D
LM02	23272988	Coil, Chroma Demod, TRF5414
LM03	23272988	Coil, Chroma Demod, TRF5414
LM04	23262798	Coil, IF Coil, TRF1092D
⚠ T401	23224983	Transformer, Horiz. Drive, TLN1039
⚠ T461	23226397	Transformer, Flyback, TFB4032BD
T801	23211925	Line Filter, TRF3128
⚠ T802	23213673	Transformer, Converter, TPW3079
T803	23211961	Line Filter, TRF3118

SEMICONDUCTORS

IC101	23318286	IC, T51419SP
IC303	23119548	IC, AN5515
IC501	B0379435	IC, TA8653N
IC601	23318370	IC, TDA2460-2
IC621	23119532	IC, TDA-1015
ICA01	23318233	IC, M50436-588
ICA02	23318214	IC, μPD6335C
ICA03	23119101	IC, M58655P
ICA04	23119441	IC, LA7910
ICA06	B0349250	IC, TA75393S
ICV01	B0379280	IC, TA8628N
ICV04	23119139	IC, AN5862K
Q102	23114689	Transistor, BC547A
Q161	A6708871	Transistor, 2SC388ATM
Q171	23114689	Transistor, BC547A
Q204	23114689	Transistor, BC547A
Q303B	23035308	Screw, BTB3X8SZN
Q303C	23030211	Screw, 3X14SN
Q402	A6330069	Transistor, 2SC2482 FA-1
⚠ Q404	A6868654	Transistor, 2SD1426
Q404D	23030211	Screw, 3X14SN
Q406	A671656A	Transistor, 2SC495-Y
Q502	23114689	Transistor, BC547A
Q505	23114693	Transistor, BF871
Q506	23114689	Transistor, BC547A
Q508	23114693	Transistor, BF871
Q509	23114689	Transistor, BC547A
Q511	23114693	Transistor, BF871
Q512	23114689	Transistor, BC547A
Q514	23114688	Transistor, BC327
Q515	23114689	Transistor, BC547A
Q603	23114689	Transistor, BC547A
Q622	23114632	Transistor, BC547B
Q801	23314098	Transistor (STR), STR54041
Q801C	23712312	Screw, PP3X.5X12SZN
Q802	23114632	Transistor, BC547B
Q803	A6534145	Transistor, 2SA1020-Y
Q830	A6358055	Transistor, 2SC3182N FA-1
Q831	A6547303	Transistor, 2SA1321
QA05	23114689	Transistor, BC547A
QA07	23114689	Transistor, BC547A
QA13	23114689	Transistor, BC547A
QA14	23114689	Transistor, BC547A
QA23	23114689	Transistor, BC547A
QA25	23114691	Transistor, BC557A
QA80	23114691	Transistor, BC557A
QB01	23114689	Transistor, BC547A
QB02	23114689	Transistor, BC547A
QN02	23114689	Transistor, BC547A
QN03	23114689	Transistor, BC547A
QR01	23114632	Transistor, BC547B
QR02	23114632	Transistor, BC547B
QR03	23114632	Transistor, BC547B

Location No.	Part No.	Description
QR04	23114546	Transistor, BC557B
QR05	A6324961	Transistor, 2SC2229-Y
QS01	23114546	Transistor, BC557B
QS02	A6842185	Transistor, 2SD553-Y
QS03	23114546	Transistor, BC557B
QV02	23114691	Transistor, BC557A
QV05	23114691	Transistor, BC557A
QV06	23114691	Transistor, BC557A
QV07	23114689	Transistor, BC547A
QV10	23114689	Transistor, BC547A
QV11	23114691	Transistor, BC557A
QV12	23114691	Transistor, BC557A
QV13	23114689	Transistor, BC547A
QV14	23114689	Transistor, BC547A
D240	23115599	Diode, 1N4148
D241	A7150041	Diode, 1SS104
D242	23115599	Diode, 1N4148
D243	23115599	Diode, 1N4148
D301	23115599	Diode, 1N4148
D302	23118479	Diode, BYD33J
D303	23115532	Diode, ERB12-01RK
D304	A7110410	Diode, Zener, 05Z12X
D315	A7110160	Diode, Zener, 05Z7.5Y
D401	A7110262	Diode, Zener, 05Z9.1Y
D404	23115599	Diode, 1N4148
D405	A7110634	Diode, Zener, 05Z20Y
D406	23118479	Diode, BYD33J
D408	23118994	Diode, BYW95C
D409	A7110311	Diode, Zener, 05Z10X
D410	A7116815	Diode, Zener, 04AZ8.2Y
D501	23115599	Diode, 1N4148
D594	23115599	Diode, 1N4148
D595	23115599	Diode, 1N4148
D596	23115599	Diode, 1N4148
D801	A7568410	Diode, TVR-4J
D802	A7568410	Diode, TVR-4J
D803	A7568410	Diode, TVR-4J
D804	A7568410	Diode, TVR-4J
D811	23118479	Diode, BYD33J
D812	23118736	Diode, BYV96E
D813	23118479	Diode, BYD33J
D814	A7116615	Diode, Zener, 04AZ6.8Y
D815	23118479	Diode, BYD33J
D830	23118994	Diode, BYW95C
D831	23118479	Diode, BYD33J
D841	23115598	Diode, 1N4003
D842	23115598	Diode, 1N4003
DA01	23115599	Diode, 1N4148
DA02	23115599	Diode, 1N4148
DA03	23115599	Diode, 1N4148
DA04	23115599	Diode, 1N4148
DA05	23115599	Diode, 1N4148
DA06	23115599	Diode, 1N4148
DA07	23115599	Diode, 1N4148
DA08	23115599	Diode, 1N4148
DA16	23115599	Diode, 1N4148
DA17	23115599	Diode, 1N4148
DA30	23115878	Diode, Zener, μPC574JC
DA31	23115599	Diode, 1N4148
DA33	23115599	Diode, 1N4148
DA34	A7110041	Diode, Zener, 05Z5.1Y
DA80	23118969	Diode (LED), MV57124, Red
DA81	23115599	Diode, 1N4148
DB01	A7110041	Diode, Zener, 05Z5.1Y

Location No.	Part No.	Description
DN01	A7288601	Diode, 1S2186 FA-1
DN02	A7110040	Diode, Zener, 05Z5.1X
DN03	A7288601	Diode, 1S2186 FA-1
DN06	23115599	Diode, 1N4148
DN07	23115599	Diode, 1N4148
DR01	23115599	Diode, 1N4148
DR02	23115599	Diode, 1N4148
DR03	23115599	Diode, 1N4148
DR10	23118447	Photo Coupler, CNY75C
DS01	23118479	Diode, BYD33J
DS02	23118610	Diode, Zener, RD30ES-B4
DS03	A7116305	Diode, Zener, 04AZ5.1X
DV01	23115599	Diode, 1N4148
DV30	23115599	Diode, 1N4148
DV33	23115599	Diode, 1N4148
DV34	23115599	Diode, 1N4148
DV40	23115599	Diode, 1N4148
DV41	23115599	Diode, 1N4148
DV42	23115599	Diode, 1N4148
DV43	23115599	Diode, 1N4148
DV60	23115599	Diode, 1N4148
DV70	23115535	Diode, OA91
DV71	23115535	Diode, OA91
DV72	23115535	Diode, OA91
DV73	23115535	Diode, OA91
DV74	23115535	Diode, OA91
DV75	23115535	Diode, OA91
DV80	23115526	Diode, Zener, BZX79B5V1

MISCELLANEOUS

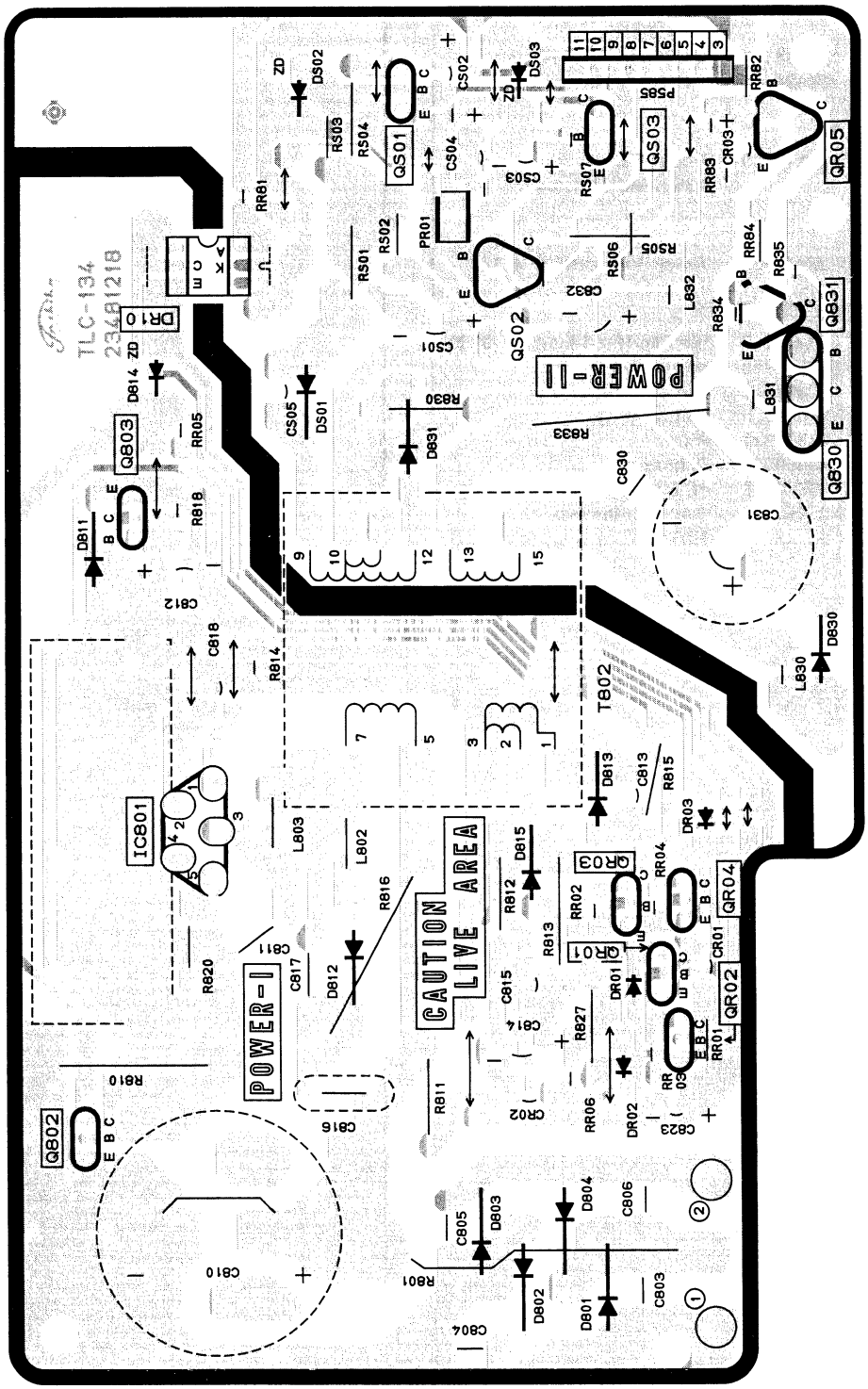
BK01	23120501	Remote Sensor, IR-9102-M
⚠ F801	23144896	Fuse, T2.0A
F801A	23845691	Fuse Clip
⚠ P801	23176704	Power Cord
PH01	23901735	Socket, 21P
S201	23145682	Switch, Lever, 1C3P
S202	23145542	Switch, Lever, 1C3P
⚠ S801	23344069	Main's Switch, 3025
S801B	23035308	Screw, BTB3X8SZN
SA01	23145278	Switch, Push, 1C1P
⚠ V901A	23901874	Socket, CRT, 8P
W201	23250907	Coil, Delay Line, TRF2075
W661	23151295	Speaker, SPK1188, 77x77mm, 16 ohm
X401	23153886	Ceramic Resonator, 503kHz, TCR1012
X501	23153979	Crystal, 4.43MHz
X502	23250950	Coil, 1H-Delay Line, DL711
Z101	A5613170	PIF SAW Filter, F1038
Z102	23153795	Ceramic Resonator, 500kHz, TCR1109
Z103	23107972	Ceramic Video Trap, 5.5MHz, TPS5.5MB
Z201	23107849	Ceramic Video Trap, 4.43MHz, TCF1032
Z601	A5613023	SIF SAW Filter, F328BM
Z602	23107947	Ceramic Filter, 5.5MHz, SFE5.5MBF
ZA01	23153845	Ceramic Resonator, 4MHz, TCR1015
ZA02	24000788	Resistor Block, 4700 ohmx4, 1/8W

Location No.	Part No.	Description
PC BOARD ASSEMBLIES		
U801	23334146	Power Board, PW6778
U902A	23334142	Main Board, PW6776
U903A	23334143	A/V Socket Board, PW6777-1
U903B	23334144	A/V Board, PW6777-2
U903C	23334145	CRT Drive Board, PW6777-3
PICTURE TUBE		
⚠ V901	23112349	Picture Tube, A36EAM01X01, SVC
TUNER		
H001	23121623	Tuner, VHF/UHF, EF441A
REMOTE HAND SET PARTS		
K902	23120520	Remote Hand Unit, CT-9289
AT01	23300928	Upper Case
AT02	23300919	Lower Case
AT03	23300920	Battery Case
AT04	23300921	Filter
ST01	23300929	Rubber
UT01	23334588	PC Board, PW6917
ZT01	23153736	Ceramic Resonator, TCR1025

Location No.	Part No.	Description

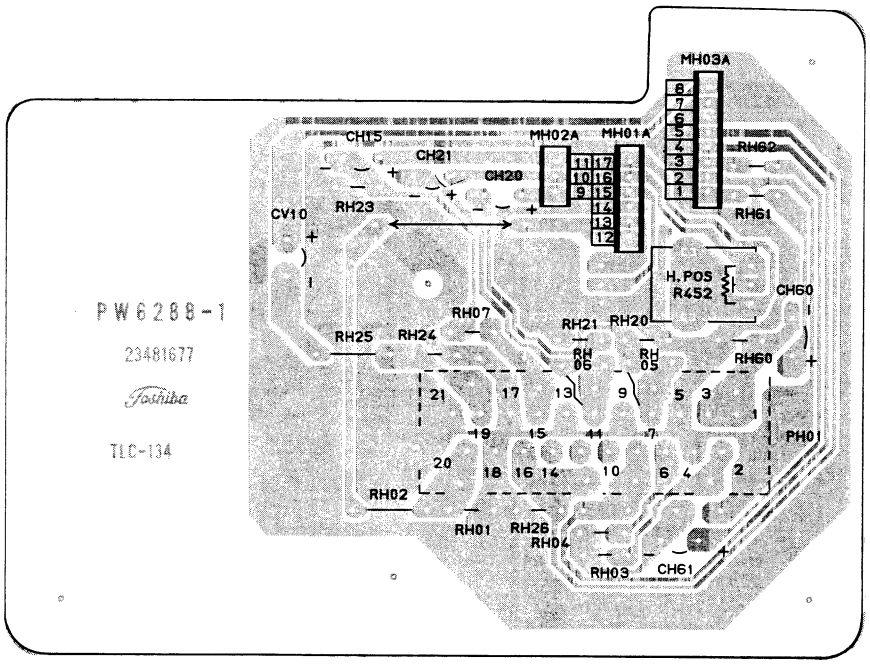
POWER BOARD PW6778

BOTTOM (FOIL) SIDE



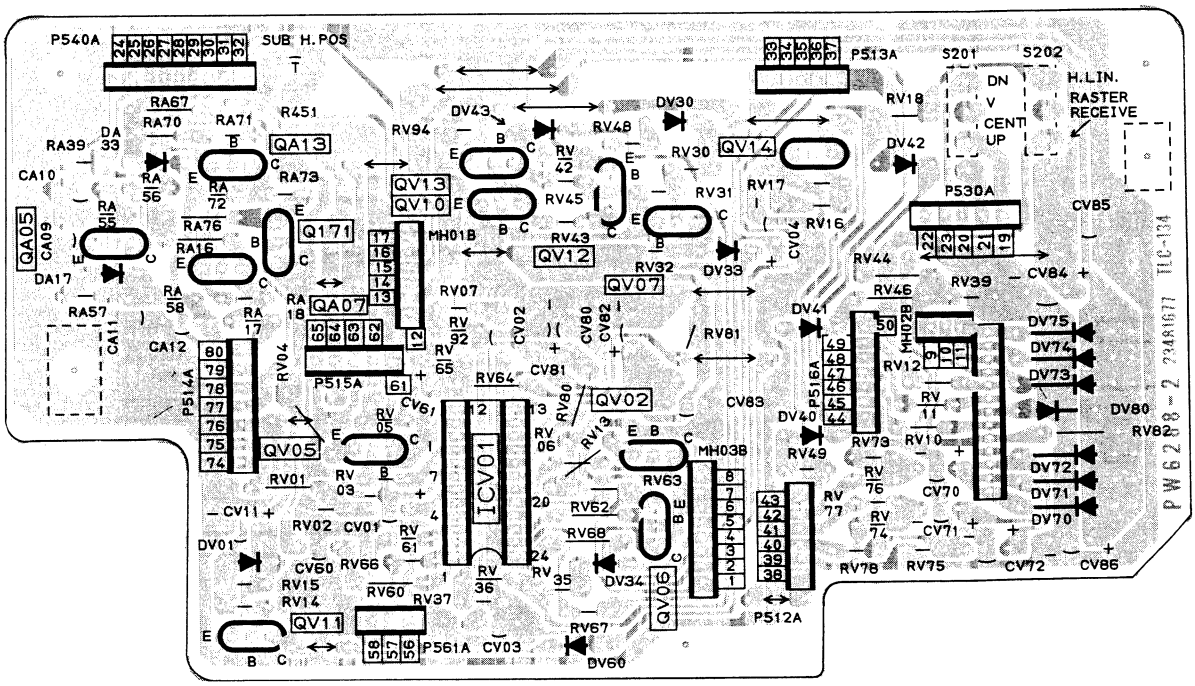
A/V SOCKET BOARD PW6777-1

BOTTOM (FOIL) SIDE



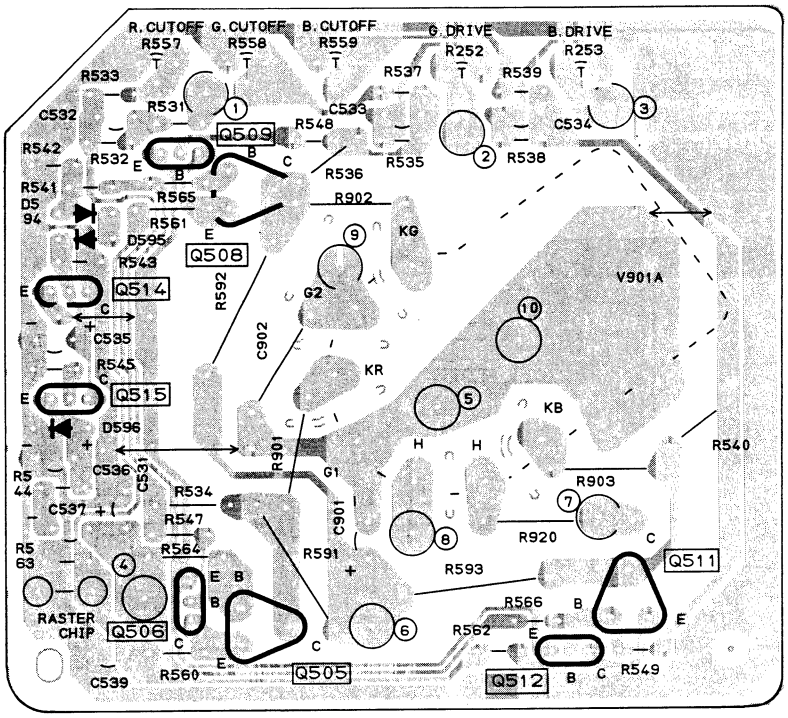
A/V BOARD PW6777-2

BOTTOM (FOIL) SIDE



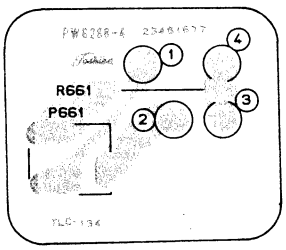
CRT DRIVE BOARD PW6777-3

BOTTOM (FOIL) SIDE



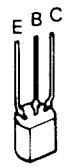
EARPHONE BOARD PW6777-4

BOTTOM (FOIL) SIDE



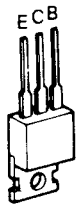
TERMINAL VIEW OF TRANSISTORS

① BC327
BC337
BC547A
BC547B
BC547C
BC557A
BC557B
BF324

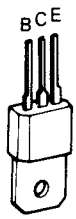


② 2SK30ATM

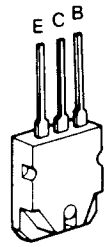
③ BD202



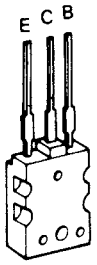
④ BF871
2SD553



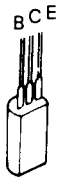
⑤ 2SC3678
2SC3182N



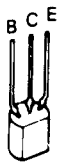
⑥ 2SD1426



⑦ 2SC2482
2SA1321
2SC2229
2SA1020



⑧ 2SC388ATM
2SA1015



155R8FW

SCHEMATIC DIAGRAM (1/2)

IMPORTANT SAFETY NOTICE

Component marked with the International Hazard Symbol must, if changed, be replaced by an approved type and must be mounted as the original. This will ensure that the safety standards adhered to during manufacture will be maintained following any servicing procedure.

OBSERVATION OF VOLTAGES AND WAVEFORMS

1. Voltage readings were obtained using a high impedance digital voltmeter.
2. (−) or ground lead of instruments should be connected to the ground marked (⊥) in the shematic on checking Non-isolated circuit surrounded by mark but should be connected to the points marked (⫫) on checking isolated circuit.
3. The voltage readings may vary as much as ±20%.
4. Check that the Tuning, A.F.C., Brightness, Contrast and Colour controls are adjusted for the best picture, making sure that the Contrast, Brightness and Colour controls are set near to their mid-positions.
5. The waveforms were taken using a standard colour bar signal and were observed using a wide band oscilloscope via a low capacity probe.

NOTES:

1. This circuit diagra

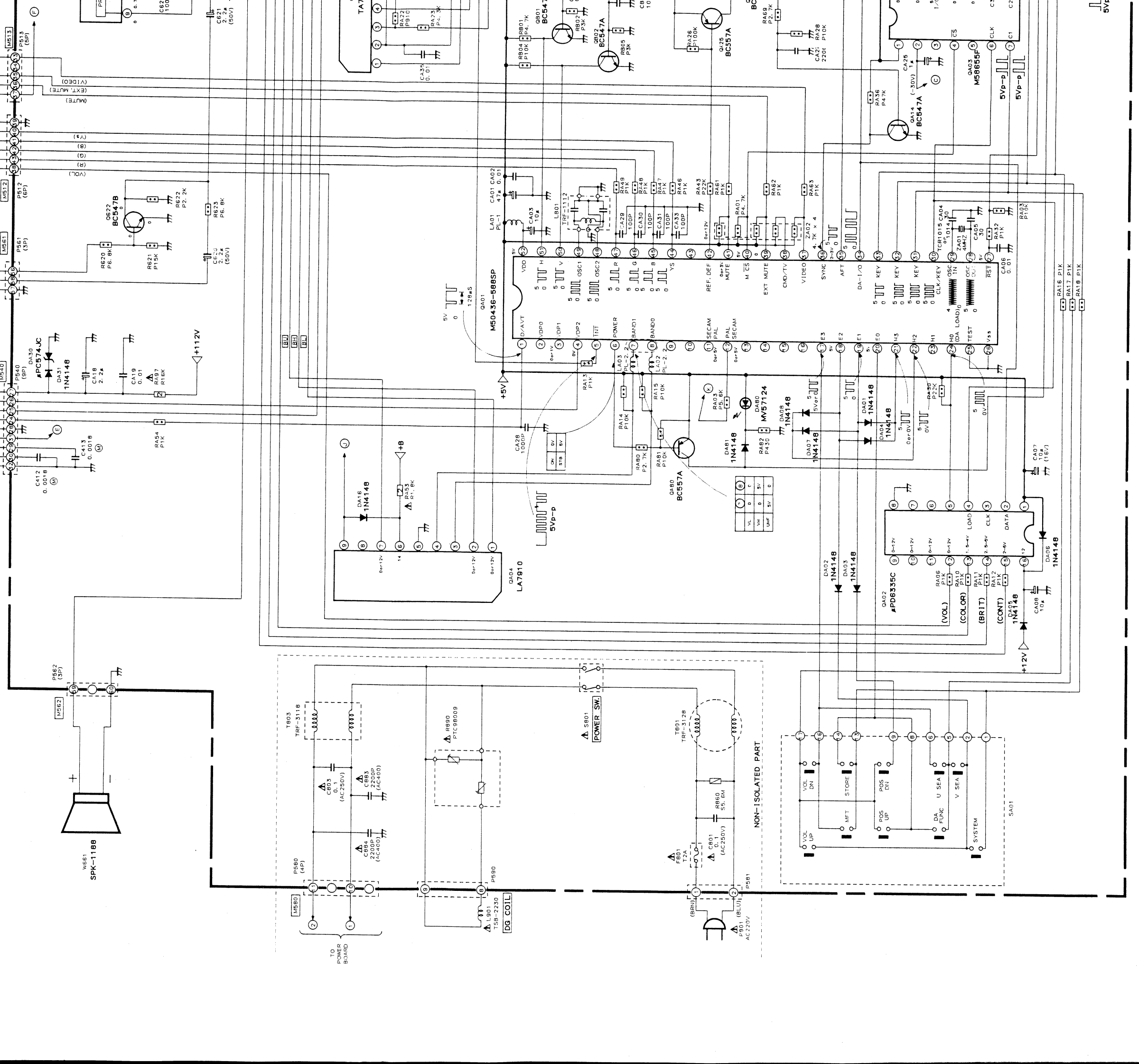
EXPRESSION

VALUE OF RESISTOR,

1. Resistance is shown in
2. Unless otherwise note μF and the values mor
3. Unless otherwise note μH, and the values les

GROUNDING SYMBOL

1. ⊥: Non isolated ground


M50436-588SP
QA01
LA7910
QA04
μPD6335C
QA02
M58655P
QA03
TCR1015
QA07
BC547A
QA14
BC557A
QA30
BC547B
QB22
MV57124
DA80
SPK-1188
W661
NON-ISOLATED PART
DG COIL
POWER SW
TO AV SOCKET BOARD (P513A)
TO AV SOCKET BOARD (P512A)
TO AV SOCKET BOARD (P561A)
TO AV SOCKET BOARD (P540A)
TO POWER BOARD
+5V
+12V
+B
5Vp-p
128μS
1N4148
SA01

TO AV SOCKET BOARD (P540A)
TO AV SOCKET BOARD (P561A)
TO AV SOCKET BOARD (P512A)
TO AV SOCKET BOARD (P513A)
TO AV BOARD (P514A)
M540 P540 (9P)
M561 P561 (3P)
M512 P512 (6P)
M513 P513 (5P)
M514 P514 (7P)
VIDEO OUT
(VOL) (R) (G) (B) (Ys) (MUTE) (EXT. MUTE) (VIDEO)
DA30 PC574JC
DA31 1N4148
CA18 2.2μ
CA19 0.01
RA97 R16K
+112V
R620 P6.8K
Q622 BC547B
R621 P15K
R622 P2.2K
C620 2.2μ (50V)
R623 P6.8K
H001 EF441A
UB AGC LB HB VT AFT MB IF
Q621 TDA1015
PRE AMP
POWER AMP
R625 P330K
C622 100
C623 0.0033
C624 1μ
C625 0.22 (16V)
C626 100μ (16V)
C627 0.1
R626 R4.7
R624 P1K
C628 1000μ (25V)
C621 2.2μ (50V)
+15V
R627 R5.6
C629 1000μ (25V)
RA59 P33K
CA17 0.1μ
RA92 2.2M
L204 PL-33
R203 P470
CA15 10μ
CA16 22μ
CA14 4.7μ
CA32 0.01
CA37 0.01
1.5V
1.7Vp-p
Vp-p
R161 P330
CA13 1000μ (16V)
L101 TRF-3040D
+12V
CONTRAST
BRIGHT
COLOR
2.6V
1.7Vp-p
DC
BU BH BL
QA06 TA75393S
RA22 P910
RA21 P3.9K
RA20 P1.8K
RA23 P4.3K
RA19 P10K
CA35 0.01
CA36 0.01
RA02 P12K
+12V
IC501 TA8653N
+9V
CN15 0.01
R152 1M(B)
AFC
R120 P5.6K
DN02 05Z5.1X
CN12 0.01
RN23 P4.7K
RN22 P1.5K
DN03 1S2186
RN26 P4.7K
RN25 P4.7K
RN24 P4.7K
CN13 22(CH)
DN01 1S2186
CN17 22(CH)
CN11 24(CH)
CN51 2~12
CN16 22(CH)
CN52 2~12
L152 TRF-1077D
R173 P1K
C122 0.01
C121 10μ
R125 P330K
C173 0.1
C119 1000
R119 P1K
L107 PL-15
L151 TRF-1077D
C120 0.01
R114 P100
Q102 BC547A
R116 P100
R123 P390
R126 P1.2K
Z103 5.5M
C126 82
R121 P3.3K
R118 P3.3K
R113 P180K
C117 4.7μ
R115 R680
C118 12(CH)
R117 P100
R112 P330
C124 1000
R124 P22K
R122 P1.5K
L108 PL-3.3
R106 P1.8M
C123 10
INV
EQAMP
SELECT AMP
AFT
SINC SEP.
VIDEO AMP
VIDEO DET
2nd IF AMP
HOR. COUNT DOWN
H Vcc
IF AGC
RF AGC
1st IF AMP
AFC
MUTE DET
NC
R111 P270
C116 1000
Z102 TCR1019
C104 1μ
C102 470
C106 0.01
C107 2.2μ
C101 1000
C113 1μ NP
C114 10μ
C115 0.47μ
R110 P5.6K
Q101 M51419SP PIF
C105 1μ
R104 P12K
R101 P2.2K
C110 0.01
C112 0.015
R128 P2.2K
C108 2.2μ
R103 P3.9K
R107 P2.2K
R108 P3.3K
L102 TRF-1148D
C103 0.01
C111 10μ
R130 P3.3K
R127 P15K
R151 10K(B)
R105 P100K
R153 5K(B)
Z101 F1038
R164 R100
+12V
C162 0.01
R163 P6.8K
R168 P5.6K
L162 TRF-9201
C164 1000
C163 1000
R167 P68
C161 1000
Q161 2SC388-ATM
R162 P1K
R166 P39
C165 1000
BK01 IR-9102-M IR AMP RECEIVER
R511 P5.6K
5V 0 128μS
QA01 M50436-588SP
LA01 PL-1
CA01 47μ
CA02 0.01
CA03 10μ
+5V
D/AVT VDD
VDP0 H
VDP1 V
VDP2 OSC1
TNT OSC2
POWER R
BAND1 G
BAND0 B
YS
SECAM
PAL
REF. DEF
MUTE
PAL
SECAM
M CS
EXT MUTE
CMD/TV
VIDEO
SYNC
AFT
DA-I/O
KEY
KEY
KEY
CLK/KEY
OSC IN
OSC OUT
RST
TEST
Vss
H0 (DA LOAD)
H1 H2 H3 E0 E1 E2 E3
LB01 TRF-1112
CA29 100P
CA30 100P
CA31 100P
CA33 100P
RA49 P1K
RA48 P1K
RA47 P1K
RA46 P1K
RA43 P22K
RA61 P1K
RA01 P4.7K
RA62 P1K
RA63 P1K
ZA02 4.7K x 4
RA13 P1K
RA14 P10K
RA15 P10K
LA03 PL-2.2
LA02 PL-2.2
RA03 P5.6K
DA80 MV57124
DA08 1N4148
DA01 1N4148
RA30 P22K
TCR1015 or 1014
ZA01 4MHZ
CA04 30
CA05 30
CA06 0.01
RA32 P1K
RA03 P10K
RA16 P1K
RA17 P1K
RA18 P1K
RB04 P10K
RB01 P4.7K
QB01 BC547A
RB03 P10K
RB02 P3K
CB01 0.01
CB02 100P
QB02 BC547A
RB05 P3K
RB06 P5.6K
DB01 05Z5.1Y
CB03 100P
RA26 P100K
Q425 BC557A
RA29 P430K
QA23 BC547A
RA69 P2.7K
CA22 0.01
DA34 05Z5.1Y
RA98 P1K
CA21 220
RA28 P10K
RA36 P47K
QA14 BC547A
(-30V)
CA25 1μ
QA03 M58655P
CS CLK C1 C2 C3 I/O
5Vp-p
5Vp-p
5Vp-p
5Vp-p
P582 (9P)
M582
+112V
+15V
EARTH FBT
(SOUND+B)
(-30V)
(POWER)
(RST)
(+5V)
TO POWER BOARD (P585)
(+12V)
(VIDEO IN)
(SOUND OUT)
TO AV BOARD (P51

lazard Symbol must, if changed, be replaced by an
riginal. This will ensure that the safety standards
tained following any servicing procedure.

AVEFORMS

high impedance digital voltmeter.
uld be connected to the ground marked (⊥) in the
cuit surrounded by mark but should be connected
g isolated circuit.
as ±20%.
ness, Contrast and Colour controls are adjusted for
e Contrast, Brightness and Colour controls are set

ndard colour bar signal and were observed using a
ity probe.

NOTES:

1. This circuit diagram is subject to change without notice.

EXPRESSION

VALUE OF RESISTOR, CAPACITOR and INDUCTOR

1. Resistance is shown in ohm, k=1,000, M=1,000,000.
2. Unless otherwise noted in schematic, all capacitor values less than 1 are expressed in μF and the values more than 1 in pF.
3. Unless otherwise noted in schematic, all inductor values more than 1 are expressed in μH, and the values less than 1 in H.

GROUNDING SYMBOL

1. ⊥: Non isolated ground, ⏚ : Isolated ground.

RESISTORS

Prefixed to values:

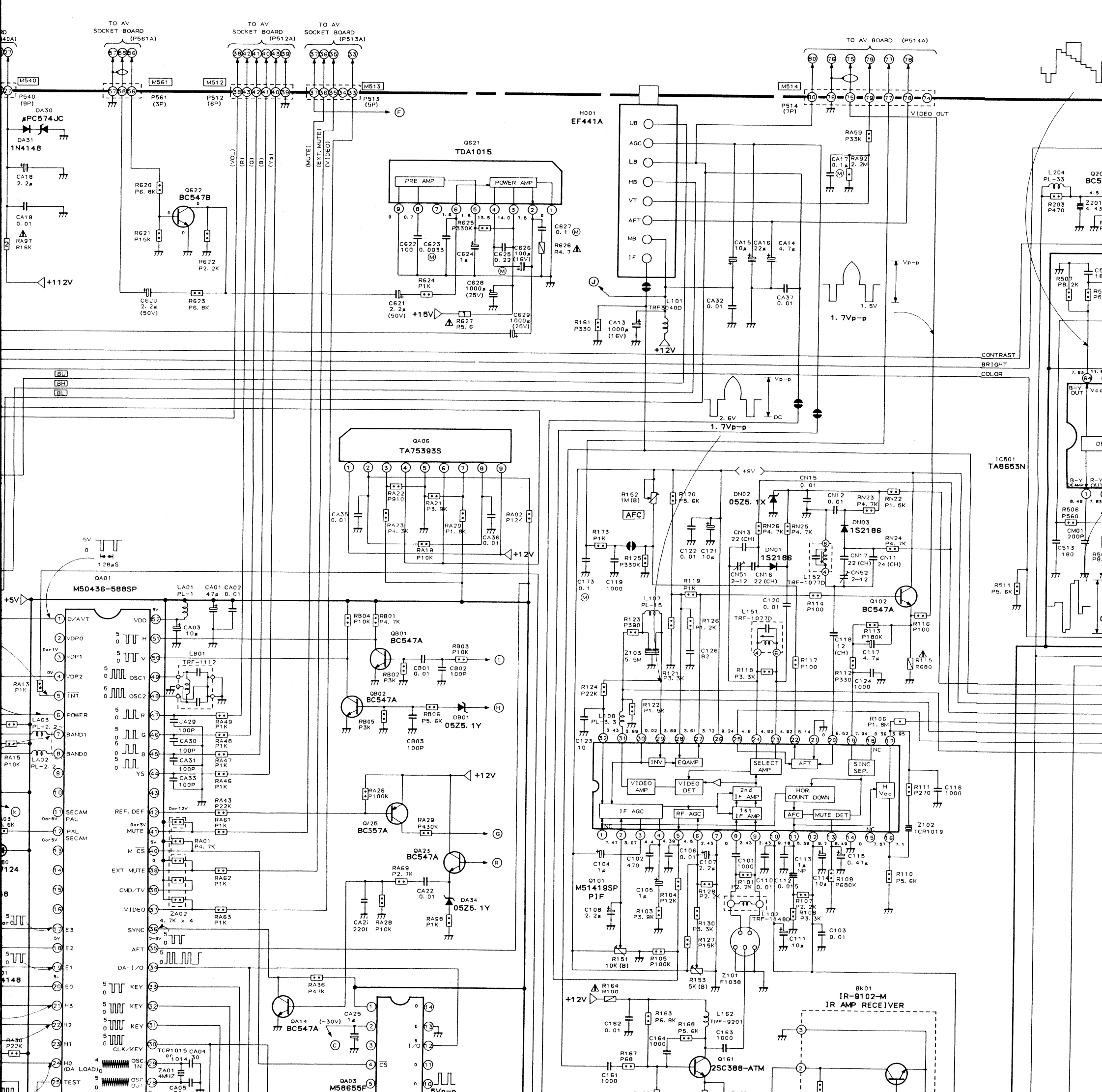
TYPE	MARK
Carbon Comp.	S
Oxide Metal Film	R
Ins. Carbon Film	P
Wire Wound	W
Cement covered W.W.	NO MARK
Fusible Res.	FR

Suffixes to valu

TOLER
±1%
±2%

Suffixes to VR

LAW
Linea
'C' Curve Cha



RESISTORS

Prefixed to values:

TYPE	MARK
Carbon Comp.	S
Oxide Metal Film	R
Ins. Carbon Film	P
Wire Wound	W
Cement covered W.W.	NO MARK
Fusible Res.	FR

Suffixes to values:

TOLERANCE	MARK
±1%	(F)
±2%	(G)

Suffixes to VR values:

LAW	MARK
Linear	(B)
'C' Curve Characteristic	(C)

Rating Markings:

WATTAGE	MARK
1/6W	
1/4W	
1/2W	
1W	1
2W	2

WATTAGE	MARK
3W	3
5W	5
10W	10
15W	15
20W	20
25W	25

CAPACITORS

Rating Markings:

Type	Mark
Ceramic Disc 50V Only	
Electrolytic	
Electrolytic Non-Polar	
Variable Capacitor	
Other	

U902 MAIN BOARD PW6776-1

TO AV BOARD (P514A)

FROM AV BOARD (P516A)

M514 P514 (7P)

M516 P516 (7P)

(SERVICE SW) (SW) (B) (G) (R)

VIDEO OUT

2Vp-p 2Vp-p 3. 4Vp-p 5. 2Vp-p 3. 4 Vp-p 5. 2Vp-p 3. 5 Vp-p

SUB BRIGHT

CONTRAST BRIGHT COLOR

IC501 TA8653N

VIDEO AMP TX CONT BRT. BLK. CLAMP C-Y AMP COLOR G-Y MAT R G B TV/TX SW FORCED STANDARD SET. SYSTEM CONTROL SCANNING DE AMP&SW DEMO BURST AMP PAL MATRIX SHCAM PERMU CHROMA AMP IDENT APC CHROMA VCO VERT H OUT AFC 32FH OSC SYNC SEPA H. V I'L CW

AFT SINC SEP. HOR. COUNT DOWN H Vcc AFC MUTE DET

BK01 IR-9102-M IR AMP RECEIVER

Q601 TDA2460 SIF (AM/FM) CONTROLLED IF AMP VOL REGU LIMITER VOL CONT AGC MIXER AM/FM SW SCART SW LIMITER MIXER

IC303 AN5515 OUT PUT DRI- VE PULSE AMP

+12V +112V +11V

D405 05Z20Y D401 05Z9. 1Y D410 04AZ8. 2Y D315 05Z7. 5Y D304 05Z12X D501 1N4148 D301 1N4148 D303 ERB12-01RK D242 1N4148 D240 1N4148 D406 BYW95C

Q102 BC547A Q204 BC547A Q603 BC547A Q502 BC547A

W201 TRF-2075 L204 PL-33 L203 PL-33 L605 PL-12 L603 PL-3. 3 L601 TRF9220 L152 TRF-1077D LM01 TRF1095 LM02 TRF-5414 LM03 TRF-5414 LM04 TRF-1092 L551 TRF-5418 L651 TRF1077D L652 TRF3077 L501 PL-22 L503 PL-10 L311 HC5-035 X401 503K X502 DL711 X501 4. 43M

HEIGHT

1. 7Vp-p 1. 5V 0. 9Vp-p 1. 6Vp-p 0. 37Vp-p (2μsec) 5. 4Vp-p (H) 2. 2Vp-p (H) 0. 3Vp-p (H) 12Vp-p (H) 2Vp-p (V)

Z102 TCR1019 Z201 4. 43M Z601 F328BM Z602 5. 5M

U902 MAIN BOARD PW6776-1

TO AV BOARD (P514A)

FROM AV BOARD (P516A)

M516 P516 (7P)

(SERVICE SW) (SW) (B) (G) (R)

VIDEO OUT

CONTRAST

BRIGHT

COLOR

SUB BRIGHT

IC501 TA8653N

VIDEO AMP | TX CONT | BRT. BLK. CLAMP | C-Y AMP | COLOR | G-Y MAT | TV/TX SW | FORCED STANDARD SET. | SYSTEM CONTROL SCANNING | DE AMP&SW | DEMO | BURST AMP | PAL MATRIX SHCAM PERMU | CHROMA AMP | IDENT | APC | CHROMA VCO | VCO | VERT | H OUT | AFC | 32FH OSC | SYNC SEPA | H. V I²L | CW

IC303 AN5515

OUT PUT | DRIVE | PULSE AMP

Q601 TDA2460 SIF (AM/FM)

CONTROLLED IF AMP | VOL REGU | LIMITER | VOL CONT | AGC | MIXER | AM/FM SW | SCART SW | LIMITER | MIXER

LM01 TRF1093 | LM02 TRF-5414 | LM03 TRF-5414 | LM04 TRF-1092 | L551 TRF-5418 | L651 TRF1077D | L652 TRF3077 | L501 PL-22 | L503 PL-10 | L603 PL-3.3 | L605 PL-12 | L311 HC5-035 | X401 503K | X501 4.43M | X502 DL711

1H D.L.

D241 1SS104 | D301 1N4148 | D303 ERB12-01RK | D304 05Z12X | D315 05Z7.5Y | D401 05Z9.1Y | D405 05Z20Y | D409 05Z10X | D410 04AZ8.2Y | D501 1N4148 | D240 1N4148 | D404 1N4148 | D242 1N4148 | D408 BYW95C | D302 BYD33J | D406 BYD33J

Q102 BC547A | Q204 BC547A | Q502 BC547A | Q603 BC547A | QN02 BC547A | QN03 BC547A | Q402 2SC2482 (FA-1) | Q406 2SC495-Y | Q404 2SD1426 H. OUT

DN03 1S2186 | DN06 1N4148 | DN07 1N4148

Z102 TCR1019 | Z201 4.43M | Z601 F328BM | Z602 5.5M

BK01 IR-9102-M R AMP RECEIVER

SINC SEP. | H Vcc | NC | DET

+12V | +112V

T401 TLN-1039 | T461 TFB-403 HOR. OUT

P515 (5P) M515 (+12V) (VIDEO IN) (SOUND OUT)

TO AV BOARD (P515A)

2Vp-p | 3.4Vp-p | 5.2Vp-p | 3.5 Vp-p | 5.4Vp-p (H) | 2.2Vp-p (H) | 0.37Vp-p (2μsec) | 12Vp-p (H) | 0.3Vp-p (H) | 2Vp-p (V) | 1.5Vp-p | 1.7Vp-p | 0.9Vp-p | 1.6Vp-p | 220Vp-p (H) | 0.8Vp-p (H) | 12Vp-p (H) | 1000Vp-p (H)

IC303

- ② PIN: 54Vp-p (V)
- ⑤ PIN: 3.2Vp-p (V)
- ③ PIN: 52Vp-p (V)
- ⑥ PIN: 1.8Vp-p (V)
- ④ PIN: 1.5Vp-p (V)

T461

- ① PIN: 1000Vp-p (H)
- ⑥ PIN: 250Vp-p (H)
- ⑨ PIN (HEATER): 24Vp-p (H)
- ② PIN: 120Vp-p
- ⑦ PIN (12V LINE): 150Vp-p (H)
- ⑩ PIN (AFC): 140Vp-p (H)
- ③ PIN: 75Vp-p (H)

U902 MAIN BOARD PW6776-1

U903C CRT DRIVE BOARD PW6777-3

AV BOARD (P516A)

SUB BRIGHT

HEIGHT

+12V

+112V

+25V

BRT. BLK. CLAMP

SYSTEM CONTROL SCANNING

FORCED STANDARD SET.

TV/TX SW

BURST AMP

CHROMA AMP

IDENT

APC

CHROMA VCO

VERT

H. V I'L

SYNC SEPA

32FH OSC

AFC

H OUT

CW

RED CUT OFF

GREEN CUT OFF

BLU CUT OFF

RED OUT

GREEN OUT

BLU OUT

RED DRIVE

GREEN DRIVE

BLU DRIVE

Q505 BF871

Q506 BC547A

Q508 BF871

Q509 BC547A

Q511 BF871

Q512 BC547A

Q514 BC327

Q515 BC547A

Q502 BC547A

Q402 2SC2482 (FA-1)

Q404 2SD1426 H. OUT

V901 C. CRT A36EAM01X01

V901A

EHT

TO AV BOARD (P530A)

FOCUS

SCREEN

HEATER

GROUND

+176V

L462 DEFLECTION COIL

VERT COIL

HOR. COIL

L411 TLN2062

L412 TLN3009

T461 TFB-4032BD HOR. OUTPUT TRANS

IC303 AN5515

OUT PUT

DRI-VE

PULSE AMP

LM01 TRF1093

LM04 TRF-1092

T401 TLN-1039

L406 TEM2001

L311 HC5-035

L501 PL-22

D301 1N4148

D303 ERB12-01RK

D304 05Z12X

D315 05Z7.5Y

D401 05Z9.1Y

D410 04AZ8.2Y

D405 05Z20Y

D501 1N4148

D240 1N4148

D242 1N4148

D404 1N4148

D408 BYW95C

D302 BYD33J

D406 BYD33J

D594 D595 1N4148 × 2

D596 1N4148

P530 (5P) M530

P570 (6P)

P552 (4P) M552

P551 (5P) M551

TO AV BOARD (P530A)

90Vp-p

80Vp-p

80Vp-p

3.4Vp-p

5.2Vp-p

3.4 Vp-p

5.2Vp-p

3.5 Vp-p

6.5 5.4Vp-p (H)

2.2Vp-p (H)

0.37Vp-p (2μsec)

12Vp-p (H)

0.3Vp-p (H)

2Vp-p (V)

1.8Vp-p (V)

2Vp-p (V)

1.6Vp-p

220Vp-p (H)

0.8Vp-p (H)

12Vp-p (H)

1000Vp-p (H)

IC303

② PIN 54Vp-p (V)

⑤ PIN 3.2Vp-p (V)

③ PIN 52Vp-p (V)

⑥ PIN 1.8Vp-p (V)

④ PIN 1.5Vp-p (V)

T461

① PIN 1000Vp-p (H)

② PIN 120Vp-p

③ PIN 75Vp-p (H)

⑥ PIN 250Vp-p (H)

⑦ PIN (12V LINE) 150Vp-p (H)

⑨ PIN (HEATER) 24Vp-p (H)

⑩ PIN (AFC) 140Vp-p (H)

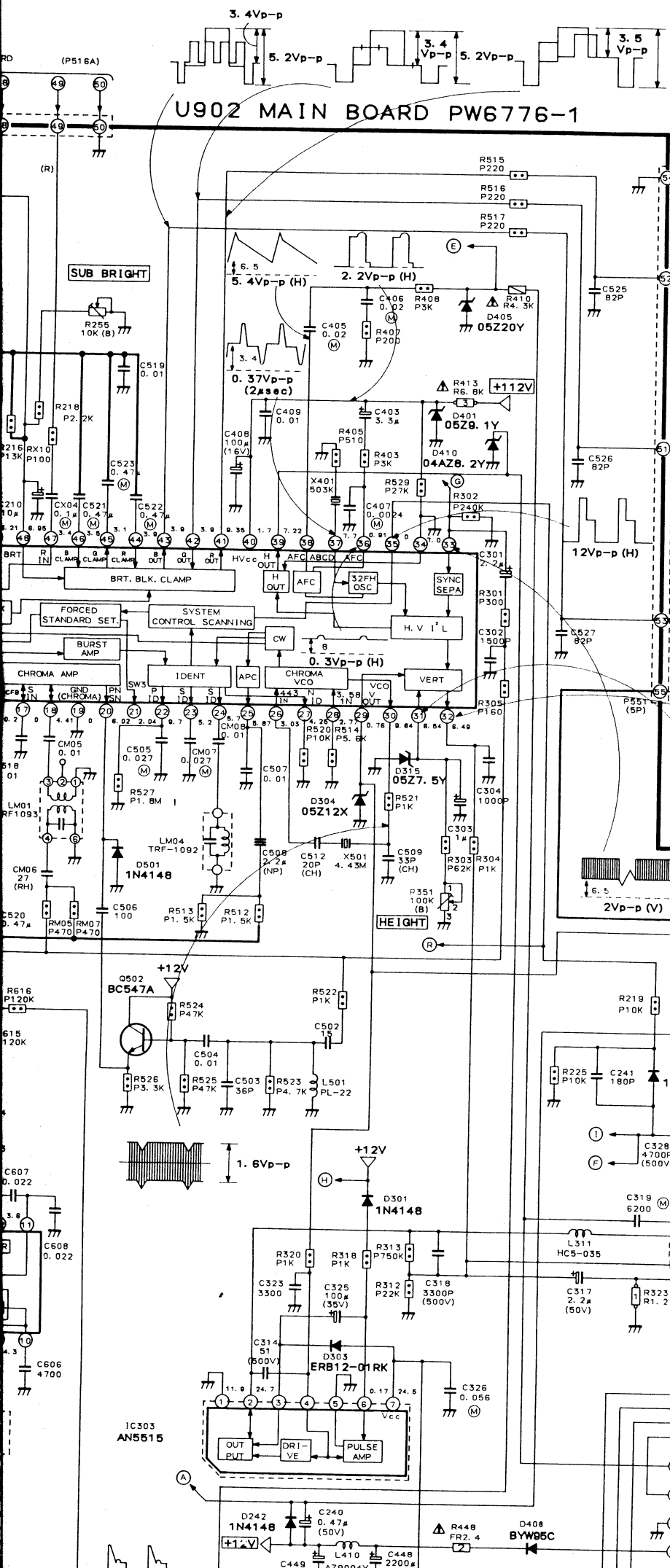
MARK
1
2

WATTAGE	MARK
3W	3
5W	5
10W	10
15W	15
20W	20
25W	25

CAPACITORS

Rating Markings:

Type	Mark
Ceramic Disc 50V Only	
Electrolytic	
Electrolytic Non-Polar	
Variable Capacitor	
Other	



155R8FW

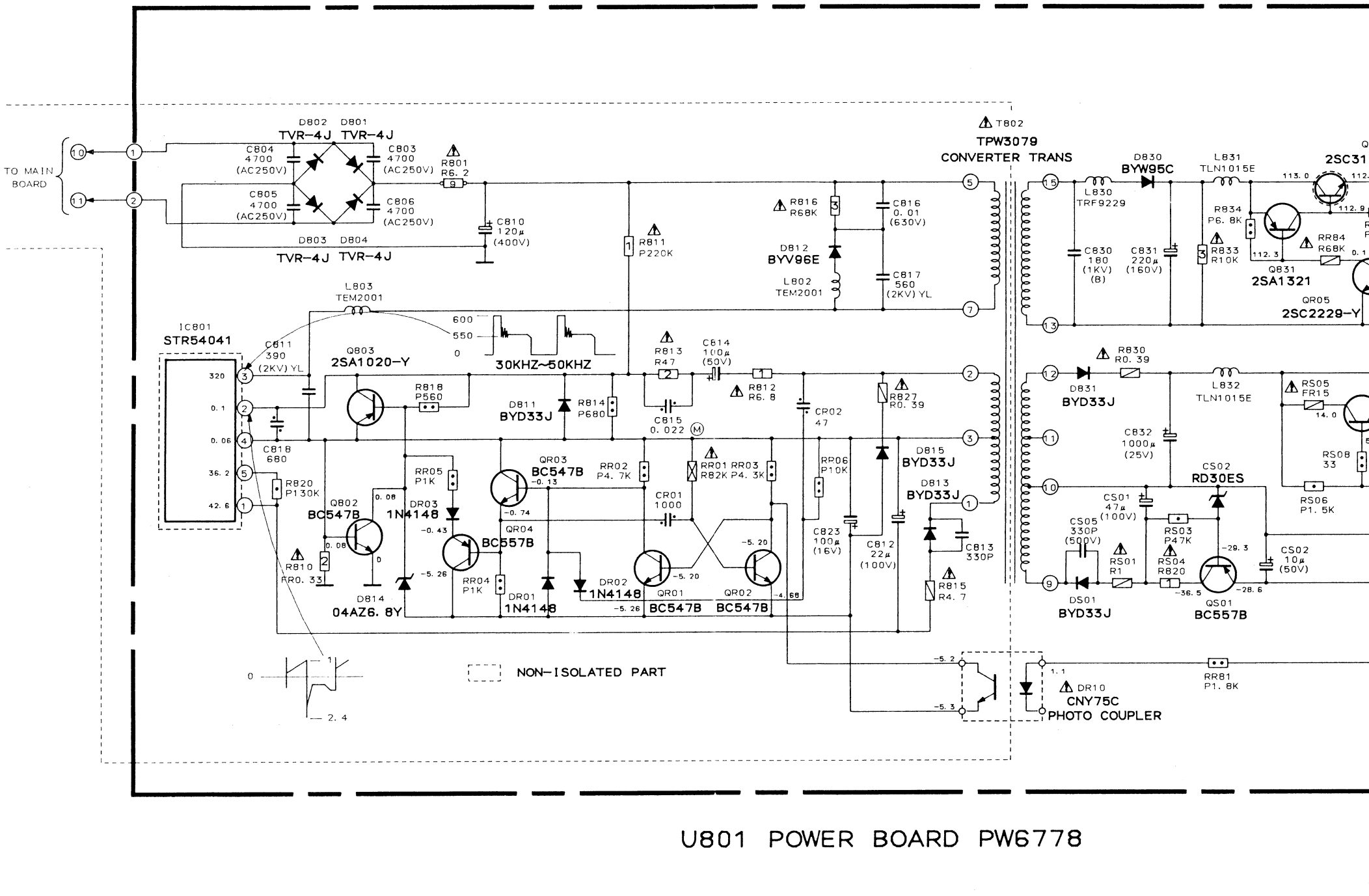
SCHEMATIC DIAGRAM (2/2)

IMPORTANT SAFETY NOTICE

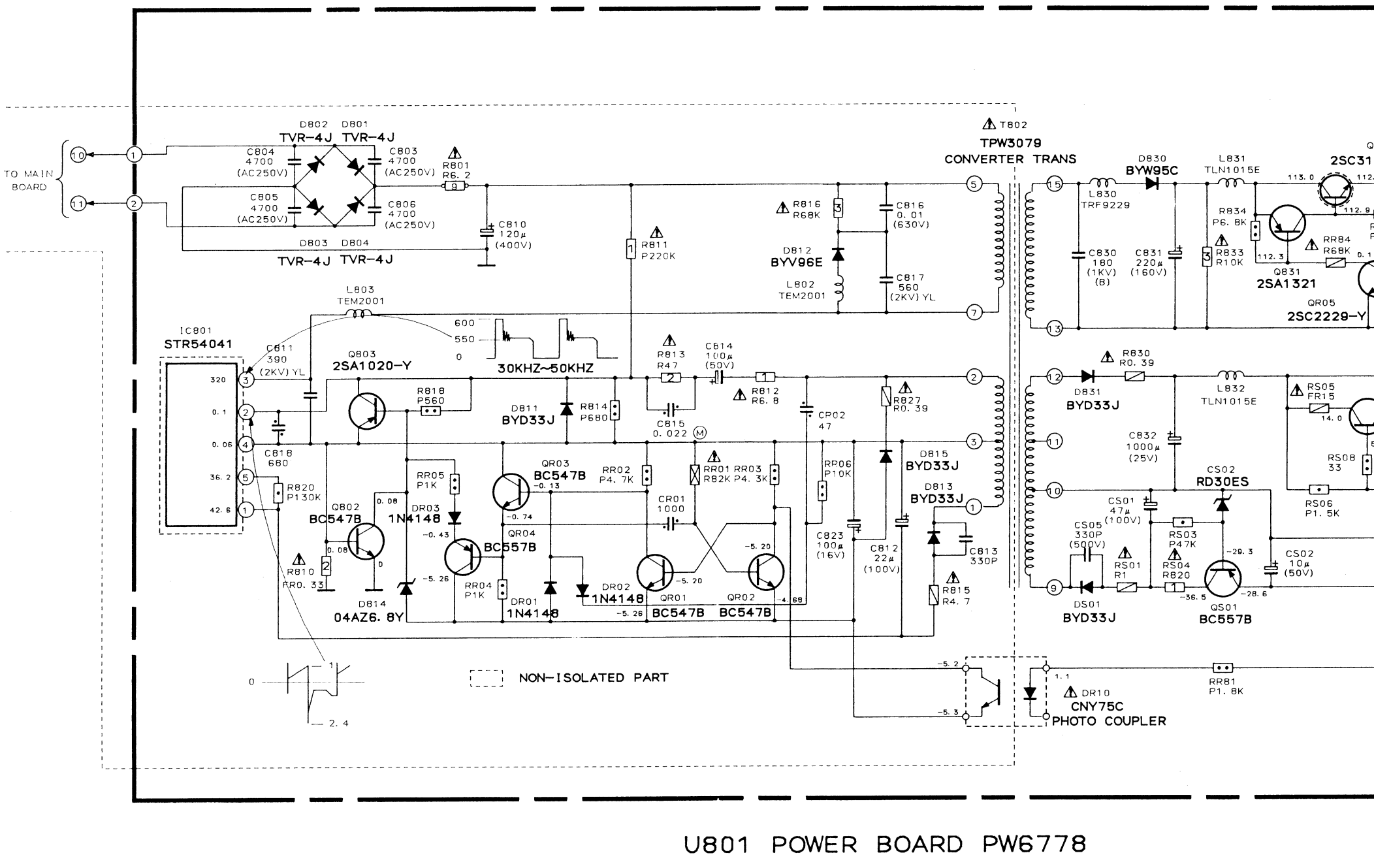
Component marked with the International Hazard Symbol must, if changed, be replaced by an approved type and must be mounted as the original. This will ensure that the safety standards adhered to during manufacture will be maintained following any servicing procedure.

OBSERVATION OF VOLTAGES AND WAVEFORMS

1. Voltage readings were obtained using a high impedance digital voltmeter.
2. (–) or ground lead of instruments should be connected to the ground marked (⊥) in the shematic on checking Non-isolated circuit surrounded by mark but should be connected to the points marked (⏚) on checking isolated circuit.
3. The voltage readings may vary as much as ±20%.
4. Check that the Tuning, A.F.C., Brightness, Contrast and Colour controls are adjusted for the best picture, making sure that the Contrast,Brightness and Colour controls are set near to their mid-positions.
5. The waveforms were taken using a standard colour bar signal and were observed using a wide band oscilloscope via a low capacity probe.



U801 POWER BOARD PW6778



U801 POWER BOARD PW6778

U90

21	SHIELD EARTH	———
20	VIDEO IN	1Vpp±3dB
19	VIDEO OUT	1Vpp±3dB
18	RAPID BLANKING EARTH	———
17	VIDEO EARTH	———
16	RAPID BLANKING	0:0~0.4V 1:1~3V
15	RED IN	0.7Vpp±3dB
14	NC	———
13	RED EARTH	———
12	NC	———
11	GREEN IN	0.7Vpp±3dB
10	NC	———
9	GREEN EARTH	———
8	EXT/TV	TV0~2V EXT:9.5~12V
7	BLUE IN	0.7Vpp±3dB
6	AUDIO IN (L)	0.2~2Vrms
5	BLUE EARTH	———
4	AUDIO EARTH	———
3	AUDIO OUT (L)	0.2~2Vrms
2	AUDIO IN (R)	0.2~2Vrms
1	AUDIO OUT (R)	0.2~2Vrms

P
21
SOC

T802
TPW3079
CONVERTER TRANS

R816 R68K
C816 0.01 (630V)
D812 BYV96E
L802 TEM2001
C817 560 (2KV) YL

D830 BYW95C
L831 TLN1015E
L830 TRF9229
C830 180 (1KV) (B)
C831 220μ (160V)
R834 P6.8K
R833 R10K
Q831 2SA1321
RR84 R68K
QR05 2SC2229-Y
Q830 2SC3182N (FA-1)
R835 P1K
D841 1N4003
D842 1N4003
RR82 P10K
CR03 22μ (16V)
RR83 P2.7K
PR01

P585
+112V
+15V
GND
GND
RMT
+5V
−30V
RESET
TO MAIN BOARD (P582)

R812 R6.8
CP02 47
R827 R0.39
D815 BYD33J
D813 BYD33J
RR06 P10K
C823 100μ (16V)
C812 22μ (100V)
C813 330P
R815 R4.7
C547B

R830 R0.39
D831 BYD33J
L832 TLN1015E
C832 1000μ (25V)
CS02 RD30ES
CS01 47μ (100V)
CS05 330P (500V)
RS03 P47K
RS01 R1
RS04 R820
DS01 BYD33J
QS01 BC557B
CS02 10μ (50V)
RS05 FR15
QS02 2SD553-Y
RS08 33
RS06 P1.5K
CS03 47μ (16V)
QS03 BC557B
CS04 10μ (16V)
DS03 04AZ5.1X

DR10 CNY75C PHOTO COUPLER
RR81 P1.8K

1 POWER BOARD PW6778

AFETY NOTICE

ked with the International Hazard Symbol must, if changed, be replaced by an
d must be mounted as the original. This will ensure that the safety standards
g manufacture will be maintained following any servicing procedure.

N OF VOLTAGES AND WAVEFORMS

dings were obtained using a high impedance digital voltmeter.
nd lead of instruments should be connected to the ground marked (⊥) in the
checking Non-isolated circuit surrounded by mark but should be connected
s marked (⏚) on checking isolated circuit.
readings may vary as much as ±20%.
the Tuning, A.F.C., Brightness, Contrast and Colour controls are adjusted for
cture, making sure that the Contrast, Brightness and Colour controls are set
r mid-positions.
rms were taken using a standard colour bar signal and were observed using a
scilloscope via a low capacity probe.

NOTES:

1. This circuit diagram is subject to change without notice.

EXPRESSION

VALUE OF RESISTOR, CAPACITOR and INDUCTOR

1. Resistance is shown in ohm, k=1,000, M=1,000,000.
2. Unless otherwise noted in schematic, all capacitor values less than 1 are expressed in μF and the values more than 1 in pF.
3. Unless otherwise noted in schematic, all inductor values more than 1 are expressed in μH, and the values less than 1 in H.

GROUNDING SYMBOL

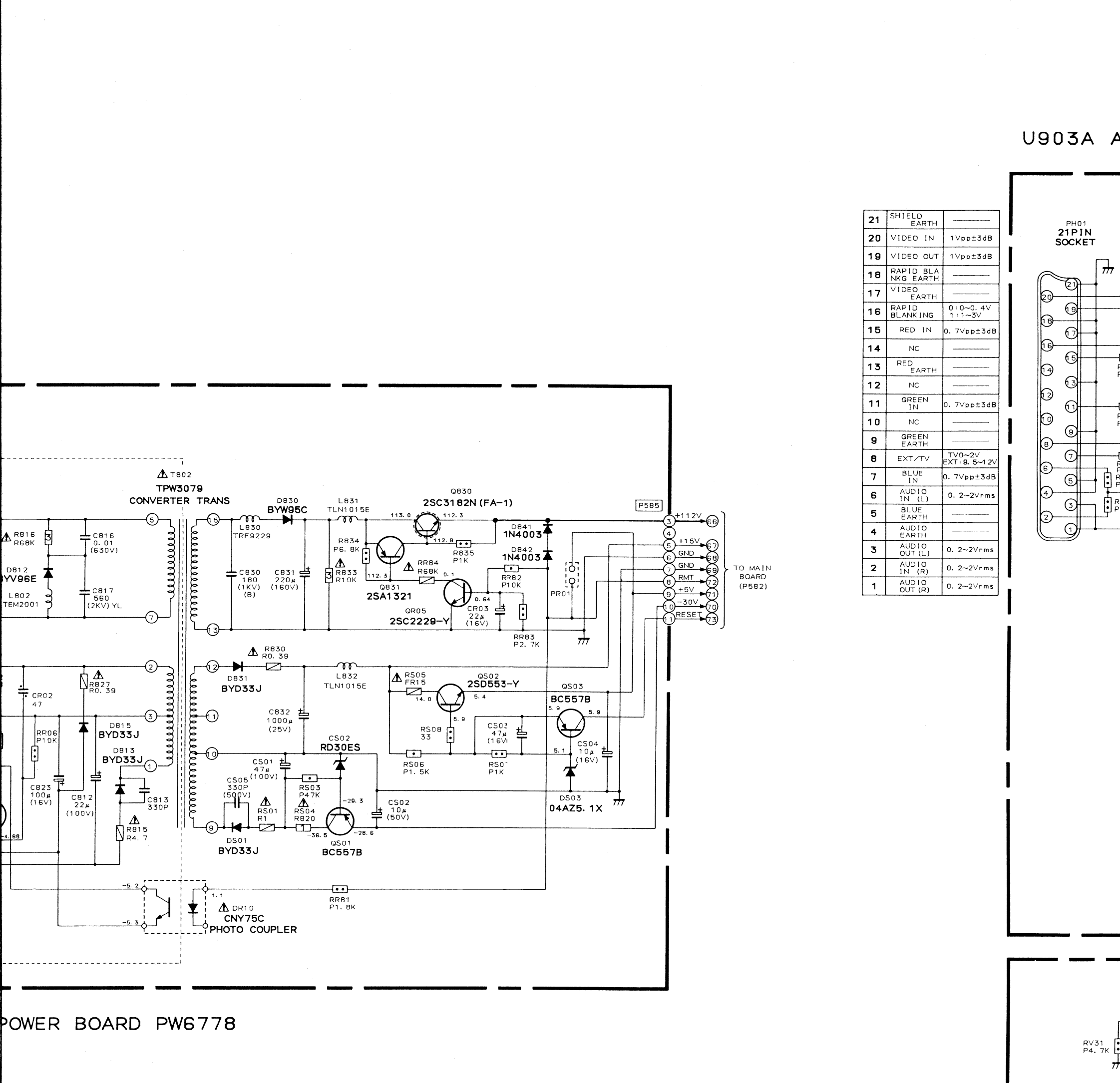
1. ⊥: Non isolated ground, ⏚ : Isolated ground.

RESISTORS

Prefixed to values:

TYPE	MARK
Carbon Comp.	S
Oxide Metal Film	R
Ins. Carbon Film	P
Wire Wound	W
Cement covered W.W.	NO MARK
Fusible Res.	FR

U903A A



21	SHIELD EARTH	———
20	VIDEO IN	1Vpp±3dB
19	VIDEO OUT	1Vpp±3dB
18	RAPID BLANKING EARTH	———
17	VIDEO EARTH	———
16	RAPID BLANKING	0:0~0.4V 1:1~3V
15	RED IN	0.7Vpp±3dB
14	NC	———
13	RED EARTH	———
12	NC	———
11	GREEN IN	0.7Vpp±3dB
10	NC	———
9	GREEN EARTH	———
8	EXT/TV	TV0~2V EXT:9.5~12V
7	BLUE IN	0.7Vpp±3dB
6	AUDIO IN (L)	0.2~2Vrms
5	BLUE EARTH	———
4	AUDIO EARTH	———
3	AUDIO OUT (L)	0.2~2Vrms
2	AUDIO IN (R)	0.2~2Vrms
1	AUDIO OUT (R)	0.2~2Vrms

POWER BOARD PW6778

n 1 are expressed in

n 1 are expressed in

RESISTORS

Prefixed to values:

TYPE	MARK
Carbon Comp.	S
Oxide Metal Film	R
Ins. Carbon Film	P
Wire Wound	W
Cement covered W.W.	NO MARK
Fusible Res.	FR

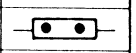
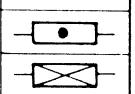
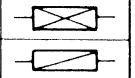
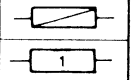
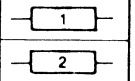
Suffixes to values:

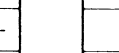
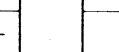
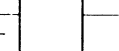
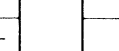
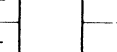
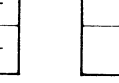
TOLERANCE	MARK
±1%	(F)
±2%	(G)

Suffixes to VR values:

LAW	MARK
Linear	(B)
'C' Curve Characteristic	(C)

Rating Markings:

WATTAGE	MARK
1/6W	
1/4W	
1/2W	
1W	
2W	

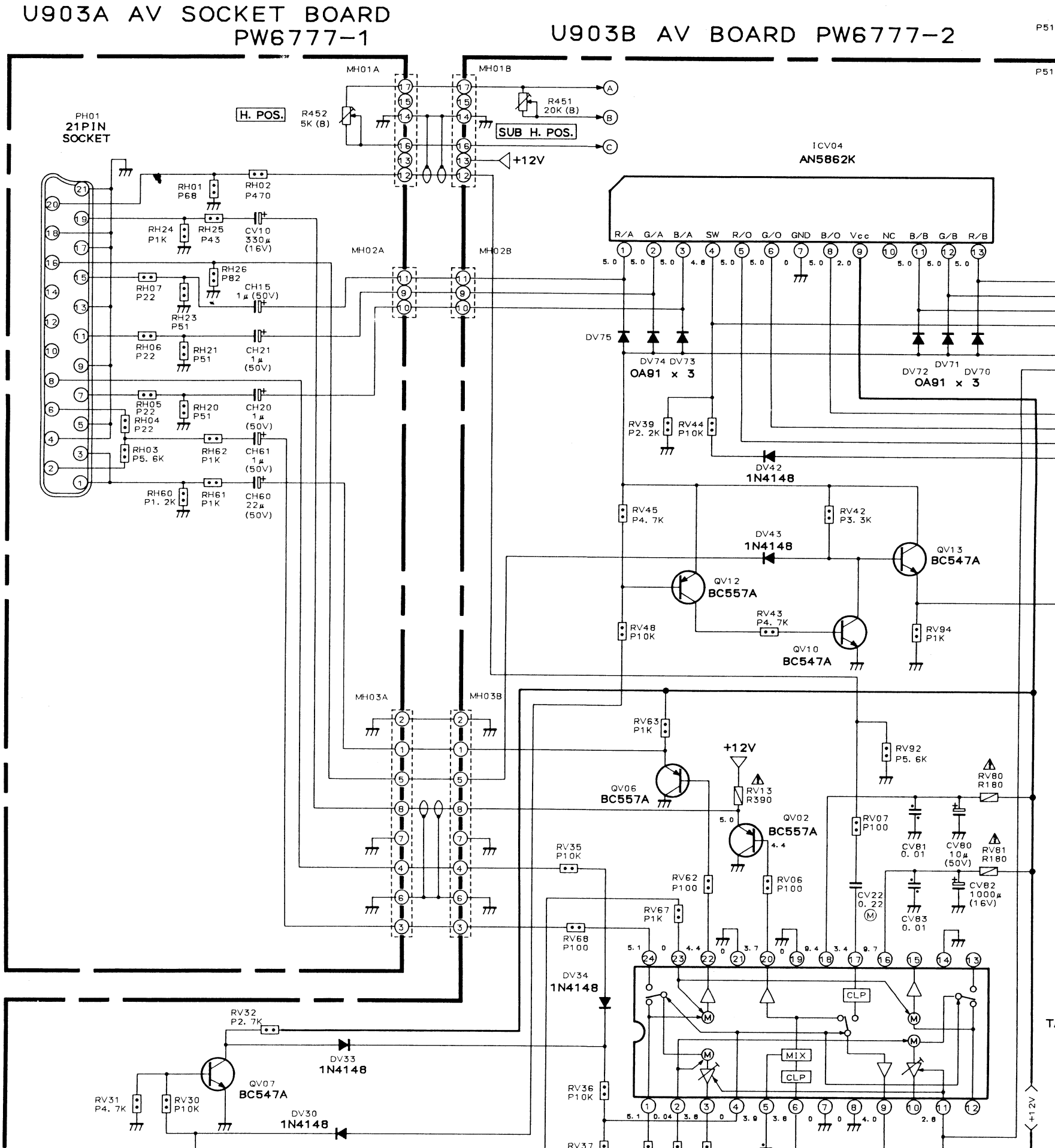
WATTAGE	MARK
3W	
5W	
10W	
15W	
20W	
25W	

CAPACITORS

Rating Markings:

Type
Ceramic Disc 50
Electrolytic
Electrolytic Non-Polar
Variable Capac
Other

21	SHIELD EARTH	———
20	VIDEO IN	1Vpp±3dB
19	VIDEO OUT	1Vpp±3dB
18	RAPID BLANKING EARTH	———
17	VIDEO EARTH	———
16	RAPID BLANKING	0:0~0.4V 1:1~3V
15	RED IN	0.7Vpp±3dB
14	NC	———
13	RED EARTH	———
12	NC	———
11	GREEN IN	0.7Vpp±3dB
10	NC	———
9	GREEN EARTH	———
8	EXT/TV	TV0~2V EXT:9.5~12V
7	BLUE IN	0.7Vpp±3dB
6	AUDIO IN (L)	0.2~2Vrms
5	BLUE EARTH	———
4	AUDIO EARTH	———
3	AUDIO OUT (L)	0.2~2Vrms
2	AUDIO IN (R)	0.2~2Vrms
1	AUDIO OUT (R)	0.2~2Vrms



U903A AV SOCKET BOARD PW6777-1

U903B AV BOARD PW6777-2

21	SHIELD EARTH	———
20	VIDEO IN	1Vpp±3dB
19	VIDEO OUT	1Vpp±3dB
18	RAPID BLANKING EARTH	———
17	VIDEO EARTH	———
16	RAPID BLANKING	0:0~0.4V 1:1~3V
15	RED IN	0.7Vpp±3dB
14	NC	———
13	RED EARTH	———
12	NC	———
11	GREEN IN	0.7Vpp±3dB
10	NC	———
9	GREEN EARTH	———
8	EXT/TV	TV0~2V EXT:9.5~12V
7	BLUE IN	0.7Vpp±3dB
6	AUDIO IN (L)	0.2~2Vrms
5	BLUE EARTH	———
4	AUDIO EARTH	———
3	AUDIO OUT (L)	0.2~2Vrms
2	AUDIO IN (R)	0.2~2Vrms
1	AUDIO OUT (R)	0.2~2Vrms

PH01
21PIN
SOCKET

MH01A MH01B MH02A MH02B MH03A MH03B

H. POS. R452 5K (B)

SUB H. POS. R451 20K (B)

+12V

P512 P512A

RV76 P3.9K

ICV04
AN5862K

R/A G/A B/A SW R/O G/O GND B/O Vcc NC B/B G/B R/B

CV70 1μ (50V)

DV75 DV74 DV73 OA91 × 3

DV72 DV71 DV70 OA91 × 3

RV39 P2.2K RV44 P10K

DV42 1N4148

RV45 P4.7K RV42 P3.3K

DV43 1N4148

QV13 BC547A

QV12 BC557A

RV43 P4.7K

RV48 P10K RV94 P1K

QV10 BC547A

RV63 P1K

+12V

RV92 P5.6K

RV80 R180

QV06 BC557A

RV13 R390

QV02 BC557A

RV07 P100

CV81 0.01

CV80 10μ (50V)

RV81 R180

RV35 P10K

RV62 P100

RV06 P100

CV22 0.22 Ⓜ

CV83 0.01

CV82 1000μ (16V)

RV67 P1K

RV68 P100

DV34 1N4148

ICV01
TA8628N

CLP MIX CLP

RV32 P2.7K

DV33 1N4148

QV07 BC547A

RV31 P4.7K RV30 P10K

DV30 1N4148

DV60 1N4148

RV36 P10K

RV37 P10K

RV60 P100 RV66 P1K RV61 P100

CV03 0.01

CV60 1μ (25V) NP

+12V DV01 1N4148

RV14 P3.3K RV15 P10K

QV11 BC557A

CV11 47μ (25V)

RV04 R390 RV03 P100

QV05 BC557A

RV05 P2.7

CV61 10μ (16V)

CV84 47μ (16V)

CV85 0.01

DV80 BZX79B5V

RV82 R270

+12V +5V

P513A P561A P515A

TO MAIN BOARD (P513)

TO MAIN BOARD (P561)

TO MAIN BOARD (P515)

U903B AV BOARD PW6777-2

FROM PINS OF P512 ON MAIN BOARD

GND R G B YS VOL

P512 59 43 42 41 40 38

P512A 59 42 41 40 43 38

R451 20K (B)

UB H. POS.

+12V

ICV04 AN5862K

R/A G/A B/A SW R/O G/O GND B/O Vcc NC B/B G/B R/B

1 2 3 4 5 6 7 8 9 10 11 12 13

5.0 5.0 5.0 4.8 5.0 5.0 0 5.0 2.0 5.0 5.0 5.0

RV76 P3.9K RV77 P3.9K RV78 P3.9K RV46 P2.2K RV64 P6.8K RV65 P22K

RV73 P820 RV74 P820 RV75 P820

CV70 1μ (50V) CV71 1μ (50V) CV72 1μ (50V)

DV40 1N4148 DV41 1N4148 RV49 P1K

S201 V. CENT DN UP

RASTER RECEIVE H. LINE

S202 SERVICE SW. +12V RV18 P1.5K

P530A 20 21 19 23 22 → TO MAIN BOARD (P530)

DV75 DV74 DV73 OA91 × 3

DV72 DV71 DV70 OA91 × 3

P516A 45 44 45 47 48 49 50 → TO MAIN BOARD (P516)

(YS) (B) (G) (R)

RV10 P220 RV11 P220 RV12 P220

RV39 P2.2K RV44 P10K

DV42 1N4148

RV45 P4.7K RV42 P3.3K

DV43 1N4148

QV13 BC547A

QV12 BC557A

RV43 P4.7K

RV48 P10K QV10 BC547A RV94 P1K

P540A 32 31 30 29 24 27 28 26 25 → TO MAIN BOARD (P540)

A B C

RA56 P33K

DA17 1N4148

RA55 P22K RA57 P33K RA58 P33K

CA09 390 CA10 220 QA05 BC547A CA11 0.1 (M) CA12 0.1 (M)

RV63 P1K

+12V

QV06 BC557A

RV13 R390

QV02 BC557A

RV92 P5.6K

RV80 R180

RV07 P100 CV81 0.01 CV80 10μ (50V) RV81 R180

RV35 P10K

RV62 P100 RV06 P100

CV22 0.22 (M) CV83 0.01 CV82 1000μ (16V)

RV67 P1K

RV68 P100

DV34 1N4148

24 23 22 21 20 19 18 17 16 15 14 13

5.1 0 4.4 0 3.7 0 9.4 3.4 9.7

CLP MIX CLP

ICV01 TA8628N

1 2 3 4 5 6 7 8 9 10 11 12

5.1 0.04 3.8 0 3.9 3.8 0 0 4.0 2.8

RV36 P10K RV37 P10K RV60 P100 RV66 P1K RV61 P100

CV03 0.01

CV60 1μ (25V) NP

RV04 R390 RV03 P100 CV61 10μ (16V)

4.7 4.0 QV05 BC557A RV05 P2.7

+12V +5V

RV82 R270

CV84 47μ (16V) CV85 0.01 DV80 BZX79B5V1 CV86 10μ (50V)

QV14 BC547A

RV16 P10K RV17 P10K CV04 10μ

DA33 1N4148

RA67 P27K +12V

RA70 P100K RA72 P22K RA73 P100K Q171 BC547A

QA13 BC547A

RA71 P100K

RA76 P6.8K

RA39 P16K RA16 P13K

QA07 BC547A RA17 P47K RA18 P47K

CV01 1μ (50V) RV01 P820 RV02 P560 P514A (7P)

78 79 77 74 80 76 75 → TO MAIN BOARD

P561A 56 57 58 → TO MAIN BOARD (P561)

P515A 65 64 61 62 63 → TO MAIN BOARD (P515)

ating Markings:

WATTAGE	MARK
1/6W	
1/4W	
1/2W	
1W	1
2W	2

WATTAGE	MARK
3W	3
5W	5
10W	10
15W	15
20W	20
25W	25

CAPACITORS

Rating Markings:

Type	Mark
Ceramic Disc 50V Only	
Electrolytic	
Electrolytic Non-Polar	
Variable Capacitor	
Other	

U903B AV BOARD PW6777-2

FROM PINS OF P512 ON MAIN BOARD

GND R G B YS VOL

P512 59 43 42 41 40 38

P512A 59 42 41 40 43 38

R451 20K (B)

H. POS.

12V

ICV04 AN5862K

R/A G/A B/A SW R/O G/O GND B/O Vcc NC B/B G/B R/B

1 2 3 4 5 6 7 8 9 10 11 12 13

5.0 5.0 5.0 4.8 5.0 5.0 0 5.0 2.0 5.0 5.0 5.0

RV76 P3. 9K RV77 P3. 9K RV78 P3. 9K RV64 P6. 8K RV46 P2. 2K RV65 P22K RV73 P820 RV74 P820 RV75 P820 RV49 P1K

DV40 1N4148 DV41 1N4148

CV70 1μ (50V) CV71 1μ (50V) CV72 1μ (50V)

S201 V. CENT DN UP

P530A 20 21 19 23 22 → TO MAIN BOARD (P530)

RASTER RECEIVE H. LINE

S202 SERVICE SW. +12V RV18 P1. 5K

DV75 DV74 DV73 OA91 x 3

DV72 DV71 DV70 OA91 x 3

P516A 46 44 45 47 48 49 50 → TO MAIN BOARD (P516)

(YS) (B) (G) (R)

RV10 P220 RV11 P220 RV12 P220

RV39 P2. 2K RV44 P10K

DV42 1N4148

RV45 P4. 7K RV42 P3. 3K

DV43 1N4148

QV13 BC547A QV12 BC557A RV43 P4. 7K QV10 BC547A RV48 P10K RV94 P1K

P540A 32 31 30 29 24 27 28 26 25 → TO MAIN BOARD (P540)

A B C

RA56 P33K DA17 1N4148 RA55 P22K RA58 P33K RA57 P33K CA09 390 CA10 220 QA05 BC547A CA11 0. 1 (M) CA12 0. 1 (M)

RV63 P1K +12V QV06 BC557A RV13 R390 QV02 BC557A RV92 P5. 6K RV80 R180 RV07 P100 CV81 0. 01 CV80 10μ (50V) RV81 R180 CV22 0. 22 (M) CV83 0. 01 CV82 1000μ (16V)

RV35 P10K RV62 P100 RV06 P100 RV67 P1K RV68 P100

DA33 1N4148 RA67 P27K +12V RA70 P100K RA72 P22K RA73 P100K Q171 BC547A QA13 BC547A RA71 P100K RA76 P6. 8K

DV34 1N4148

ICV01 TA8628N

CLP MIX CLP

1 2 3 4 5 6 7 8 9 10 11 12

5.1 0.04 3.8 0 3.9 3.8 0 0 4.0 2.8

QV14 BC547A RA39 P16K RA16 P13K QA07 BC547A RA17 P47K RA18 P47K

RV36 P10K

RV16 P10K RV17 P10K

RV37

+12V +5V

RV82 R270

78 79 77 74 80 76 75 → TO MAIN BOARD